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# THE ECONOMIC ABILITY: OF THE STATES TO FINANCE PUBLIC SCHOOLS

THE ABILITY OF THE VARIOUS STATES TO RAISE TAX REVENUE UNDER A  
SYSTEM OF TAXATION BASED ON THE MODEL PLAN OF STATE AND LOCAL  
TAXATION, WITH SPECIAL REFERENCE TO THE RELATIVE ABILITY OF  
THE STATES TO SUPPORT EDUCATION

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CONTRIBUTIONS TO EDUCATION, NO. 669

*Published with the Approval of*  
*Professor JOHN K. NORTON, Sponsor*

BUREAU OF PUBLICATIONS  
**Teachers College, Columbia University**  
NEW YORK CITY  
1936

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CAMDEN, N. J.

## ACKNOWLEDGMENTS

THROUGHOUT this investigation I have been aided to a great extent by various persons. I am especially indebted to Professor John K. Norton, sponsor of this study. His timely suggestions, constructive criticisms, and sympathetic attitude were of inestimable value. To Professors Paul R. Mort, Harold F. Clark, and Floyd B. O'Rear, members of the dissertation committee, I owe much for many helpful suggestions and valuable criticisms.

Indispensable help was given by Professor George D. Strayer in the early stages and at other crucial points in the study. Valuable suggestions were also given by Professors Robert Murray Haig and Carl Shoup. The kindness of Professor Shoup in reading the study is greatly appreciated. Others who gave of their time were Willford I. King, Helen M. Walker, Eugene Lawler, F. G. Cornell, Howard A. Dawson, James Cammack, members of the National Industrial Conference Board, especially Edward T. Frankel and Louis H. Kimmel, and members of the National Bureau of Economic Research, especially Miss Lillian Epstein.

To the Committee on Government and Educational Finance of the American Council on Education, I am indebted for financial aid to cover the cost of certain types of special data and of certain special clerical service. This Committee also financed the major part of the cost of publishing the study, thus making possible its prompt and general distribution. This important assistance, and the interest shown in the study by the Committee on Government and Educational Finance are gratefully acknowledged.

I wish to express my appreciation of the assistance given by various librarians at Columbia University, especially Misses Clara E. Derring, Margaret C. Miller, and Florence Inghram of Teachers College Library, and Miss Myrtle A. Cline of the School of Business. Courtesies extended by Miss Evelyn M. Horton in the statistical laboratory greatly facilitated the work.

I am also indebted to certain publishers for the use of basic data in this study. Their names are mentioned in the text. To them all, grateful acknowledgment is made.

My non-technical collaborator in conducting this study has been my wife. Without her coöperation, the study could not have been made.

L.L.C.

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## CHAPTER I

### INTRODUCTION

AT THE present time, the question of the relationship of the Federal Government to the financing of education is an exceedingly live issue. Under depression conditions thousands of communities<sup>1</sup> are not providing adequately for their schools. The financial difficulties of education during the depression, resulting in closed schools in some sections and inadequate provision for them in others, are an aggravation of a condition which existed before the onset of the depression. The National Survey of School Finance revealed that even at the peak of prosperity previous to the current depression, there existed areas in which educational opportunities were of the most meager type.<sup>2</sup>

There have been frequent demands that the Federal Government take account of the financial difficulties of the schools and provide emergency and even permanent aid for public education. As these demands have increased in number and intensity, questions have been raised as to whether the failure of certain communities and states to maintain an acceptable educational program is due to lack of economic or financial resources or to other causes. It is urged by some that the wide disparities in educational opportunities offered in normal times in the different states, and the wider disparities which have developed during the depression, are due less to differences in ability to support schools than to other causes. It has been claimed that if all states would put their fiscal "houses in order" the wide differences in the provision for the financial support of public schools would disappear.

This investigation will present data which are pertinent to the scientific study of the question of the ability of the various states to support education.

<sup>1</sup> See: United States Office of Education, *Financial Situation in Rural Schools and Small Independent School Districts, 1934-35* (March 1935).

<sup>2</sup> Research Division, National Education Association, *Current Data on Closed Schools* (March 29, 1935).

<sup>3</sup> Paul R. Mort, *State Support for Public Education* (1933), p. 4.

The investigation is concerned with the economic ability of the states to raise tax revenue and their relative ability to support a given program of public elementary and secondary education under a system of state and local taxation based on the Model Tax Plan prepared by a committee of the National Tax Association in October 1933. The study presents a technique for measuring the relative ability of the states to raise tax revenue for the support of education and applies this technique to the various states, using the best available economic data to determine their relative ability to finance education. The study was suggested by a section of a research bulletin of the National Education Association, prepared by John K. Norton and entitled "The Essentials of a Sound Plan of State and Local Taxation." Norton calculated the amount of tax revenue which could be raised in the various states by a series of taxes suggested by the first report of the committee of the National Tax Association on a plan of a model system of state and local taxation. From the evidence presented it was concluded:

That there is not a state in the Union which cannot increase the amount it is spending for education, if school efficiency demands.<sup>3</sup>

Norton's study, however, did not use the technique presented herein as a basis of estimating the ability of the states to support education.

The present investigation covers a period of eleven years, 1922 to 1932, inclusive. This period seems suited to such a study since it includes the depression of the early 1920's, the period of prosperity following it, and the first years of the current depression.

The study will first determine the structure of a tax system based on the Model Tax Plan. Second, it will apply this system of taxation, at uniform and reasonable rates, to each of the forty-eight states, using the best available economic data to determine the amount of tax revenue which would have been raised under this system of taxation. Third, the investigation will study the portion of the total potential tax raising ability of the various states which could reasonably be expected to be devoted to the support of public education.<sup>4</sup> The latter amounts will be studied in relation to the

<sup>3</sup> National Education Association, *Major Issues in School Finance* (1927), Part III, p. 50.

<sup>4</sup> Throughout the study the term education or public education, unless otherwise specified, will refer to public elementary and secondary education as defined by the United States Office of Education in the chapter on "State School Systems" in the various issues of the *Biennial Survey of Education*.



educational need in the several states, in an effort to determine the relative ability of the states to support education.

The contribution of the study will be, first, the development of a method for measuring the relative economic ability of the states to support education and, second, the application of this method in the actual measurement of this ability as accurately as available data will permit. The work of this investigation was begun in November 1933, and lasted continuously to April 1935.

Let us first review former studies which have direct bearing on the present problem. Keith and Bagley<sup>5</sup> showed that in 1917 if (1) wealth per capita is taken as a measure of economic ability, the disparities among the states ranged from \$669.36 in Mississippi to \$4,135.35 in Nevada, and (2) the taxable wealth behind each person of school age varied from \$2,026.01 in Mississippi to \$27,360.70 in Nevada, while the average for the entire country was \$6,296.55. It was also shown that if property were considered as the tax base, Mississippi, in order to raise a given sum of money for each person of school age, would have had to levy a tax seven times as high as that needed in California. Taking two neighboring states in the Middle West—Missouri and Iowa—it was found that the former would have had to levy a tax at a rate twice as high as that of the latter in order to raise a given sum of money for each child of school age.

In another investigation, Norton<sup>6</sup> was concerned with the ability of the states to support education as measured by economic power behind each child to be educated. He first dealt with the question: "What is the relative ability of the states in the Union to support education providing they tap their economic resources in an ideal way?" He employed a combination of wealth and income as a measure of economic power or resources. He found that the richest state of the forty-eight was approximately six times as able to meet its educational obligations as the poorest state. In considering groups of states, he found that the twelve richest states had three times as much economic power behind each child to be educated as the twelve poorest states.

Norton also asked the question: "Are the differences that exist in the ability of the states to support education temporary or rela-

<sup>5</sup> John A. H. Keith and William C. Bagley, *The Nation and the Schools* (1920), p. 269.

<sup>6</sup> John K. Norton, *The Ability of the States to Support Education* (1926).

tively permanent?" In the light of available data he concluded that:

... existing differences in ability to support education are not peculiar to this decade and that similar differences will probably be found in the future. There is also some evidence that a state's comparative position, with respect to its ability to support education, is relatively permanent. In the majority of cases it has shown no tendency to fluctuate widely since 1880.<sup>7</sup>

After considering the possibility that poor states would overcome their economic handicap by levying a higher tax rate, Norton concluded that there is little evidence to justify the hope that the poor states will make up their economic inability to support education by levying taxes at rates from two to six times as high as others to provide a given amount of financial support for each child to be educated.<sup>8</sup>

Carr<sup>9</sup> presented figures based on data in the *Encyclopedia of Social Sciences* as to wealth and income, which showed that in 1930 the average tangible wealth per child between the ages of six and seventeen was more than \$30,000 for Nevada whereas it was \$4,000 in Mississippi.

According to Carr, annual public school expenditures show similar variations. For example, Nevada, New York, and New Jersey each spend nearly \$200 per pupil in average daily attendance while Georgia and Mississippi spend less than forty dollars. Carr concluded that:

A certain amount of this difference is undoubtedly accounted for by prevailing costs and standards of living in the several states, but it appears probable that, to a considerable degree, these differences reflect real and serious differences in the quality of education received.<sup>10</sup>

The foregoing investigations can be criticized from two standpoints. First, they have used approximate measures of the educational need of the various states. A more exact measure has recently become available as a result of a study under the direction of Mort.<sup>11</sup> It represents an effort to arrive at a scientific measure

<sup>7</sup> John K. Norton, *op. cit.*, p. 70.

<sup>8</sup> *Ibid.*, p. 71.

<sup>9</sup> National Education Association, "Data on the Relative Ability of the States to Support Education." Mimeographed circular (January 16, 1934), p. 2.

<sup>10</sup> *Ibid.*, p. 2.

<sup>11</sup> Paul R. Mort, "An Objective Basis for the Distribution of Federal Support to Public Education," *Teachers College Record* (November 1934), pp. 91-110.

of the educational task which each state has to perform, taking into account such factors as number of children, sparsity of population, and cost of living.

The second weakness of previous investigations of the relative economic ability of the various states to support education is that in using wealth and income as measures of economic power they have assumed that each dollar of such wealth and income is equally available for the support of education. That this may not be the case is indicated by an illustration. Two states might have equal amounts of income, for example, one billion dollars each. The income of the first state might constitute the aggregate of the incomes of one million citizens, each with an income of \$1,000. The income of the second state might be composed of the incomes of ten thousand citizens, each with an income of \$100,000. The tax revenue possibilities would be very different in the two states. A state personal income tax granting an exemption of \$1,000 in the first state would raise no revenue. Such exemption in the second state would leave a total of \$999,900,000 of taxable income.

This extreme example is not approximated by the distribution of income in any state at the present time. But it is true that the distribution of incomes does differ considerably in the various states. The desirability of taking some account of this important fact is evident.

This investigation does not make the assumption of the studies of ability to support education which have been made to date, namely, that each dollar of wealth or of income in a state is equally available for taxation purposes. Rather, it assumes that the wealth and the income of a state are available for the support of education only in so far as they may be taxed through a practical system of taxation. This study will employ a measure of the economic ability of the various states which attempts to take account of the tax availability of such economic power as a state possesses, that is, its potential tax revenue possibilities under a tax system proper in structure and efficiently administered. The advantages of such a measure of the economic ability of a state are clear. Wealth, income, or any other form of economic power is of fiscal importance in so far as it is taxable. This investigation, therefore, does not measure the relative economic ability of the states in terms of aggregate wealth and income but in terms of the resources which would be taxable under an acceptable and a properly administered

tax system and particularly the tax revenue which would be realized under such a system of taxation. It will do this by applying a uniform system of taxation to the economic resources of each state.

It is desirable to point out certain considerations bearing upon the use of a uniform system of taxation in a study concerning the ability of the states to support education. The uniform system of taxation is employed because it seems to offer an improved means for measuring the economic ability of the states, and particularly for measuring the practical fiscal outcome of that ability, namely, tax revenue. This method is believed to be superior to the methods employed in previous studies, for reasons already pointed out.

It should be clearly understood, however, that the use of a uniform tax system as a means of measuring economic ability or ability to raise tax revenue does not imply that it is desirable for all states actually to employ a uniform tax system in raising revenue for public purposes. The structure of a state tax system should take account of the peculiar economic and other characteristics of each state. While there should probably be certain elements common to the tax systems of all states, such as a tax on tangible property and a tax on personal income, it is not probable that the taxes, and the rates at which they would be levied, would be the same in every state. The amount of revenue needed in different states, and differing economic and other conditions would probably justify somewhat different tax structures and rates in different states.

Certain minor elements in the tax structure of each state probably should be unique to the individual state. For example, a stock transfer tax is of some fiscal importance, and is actually levied, in a state like New York. Severance taxes may be a proper part of the tax structure of certain states.

These considerations justify a fundamental question concerning the use of a uniform tax system in this investigation. If such a system of taxation should not be employed by the states for the reasons given, is it defensible to employ it in the measurement of ability in this study? Would it not be preferable, in studying the relative ability of the states to support education, to devise a unique system of taxation for each state, and calculate the revenue raised in each case?

It would be desirable for some other investigator to use this approach to the problem. It was not used in this study, however, for two reasons. First, the investigator did not possess the resources

necessary to undertake the very extensive research which the procedure would have involved.

Second, it is believed that the uniform tax system used in measuring relative ability in this study possesses peculiar advantages for the purpose for which it is used. In the first place, it permits a definite quantitative comparison of the states, as to their tax-raising ability, through several important taxes which compose the structure of the uniform tax system employed in this study. There is substantial theoretical agreement that a number of the taxes in this structure should be present in the tax systems of all states, for example, the tax on tangible property and that on personal income. In the second place, there is also some support, in theory and in practice, for the practical use of other taxes included in the tax system employed in this study in measuring ability to support education. For these reasons, in comparing the ability of the states to raise tax revenue, there are some advantages in using a uniform tax system rather than a variety of tax systems.

Accordingly, this investigation applied a uniform tax system to all the states to measure their relative ability to raise tax revenue. The tax system used for this purpose is based on the Model Tax Plan prepared by a group of tax experts acting as a committee of the National Tax Association.<sup>12</sup> The present study follows the recommendations of the Model Tax Plan at every point where specific recommendations are made. Quotations from the Model Tax Plan show the places where its recommendations are followed. There are places, however, where the Model Tax Plan makes no specific recommendations. Two examples are probably sufficient to illustrate the foregoing point: the tax rate on tangible property and the question of supplementary taxes, that is, those taxes which state and local governments might use to supplement the revenue collected from the proposed personal income tax, the tax on tangible property, and the business tax. In the absence of specific recommendations in the Model Tax Plan, the present investigator has relied upon recommendations of tax experts—made in conferences and in written reports. The tax plan used in the present study, therefore, will refer to a tax system based on the Model Tax Plan at each point where specific recommendations were made, and which in other instances follows what is believed to be competent advice.

<sup>12</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), pp. 4-47.

This procedure was used in determining the rates of all taxes except the one on tangible property. The rate of this tax was determined by a method which will be described later. It is not proposed, however, that all tax experts would agree on every point involved in the tax plan used in this study. However, each point in the plan does represent the thinking of certain accepted leaders in the field of taxation.

It is desirable here to show the purpose which the Committee had in mind when it formulated the Model Tax Plan:

. . . the Committee has confined itself to the one problem of immediate practical importance, which is that of devising methods by which the large revenues now required by American state and local governments may be raised with the greatest practical degree of equity, certainty, convenience, and economy.<sup>13</sup>

The Model Tax Plan has three major parts, namely, a personal income tax levied by the state of residence, a tax on tangible property levied by the state of situs, and a business tax levied by the states in which the business is conducted. The Committee also suggested certain supplementary taxes.

The general scope of the three major taxes as well as their underlying principles can be seen in the following quotation from the Committee's report:

Study of the tax laws of the American states reveals the fact that there are three fundamental principles which have been more or less clearly recognized by our lawmakers and have very largely determined the provisions of the enactments now standing on the statute books.

The first is the principle that every person having taxable ability should pay some sort of a direct personal tax to the government under which he is domiciled and from which he receives the personal benefits that government confers. . . .

The second principle is that tangible property, by whomsoever owned, should be taxed by the jurisdiction in which it is located, because it there receives protection and other governmental benefits and services. . . .

The third principle, somewhat less clearly and generally exemplified by our tax laws but none the less discernible, is that business carried on for profit in any locality should be taxed for the benefits it receives.<sup>14</sup> . . .

It is the opinion of the Committee that the only method of reconciling

<sup>13</sup> National Tax Association, *op. cit.*, p. 9.

<sup>14</sup> *Ibid.* n. 10.

these conflicting claims of the states is the adoption of a diversified system of taxation which recognizes fully the three principles above mentioned and provides a method by which, without formal agreement among the states, these principles may be logically and consistently applied. We propose, therefore, a personal tax which shall be levied consistently upon the principle of taxing every one at his place of domicile for the support of the government under which he lives; a property tax upon tangible property, levied objectively where such property has its situs and without regard to ownership or personal conditions; and, finally, for such states as desire to tax business, a business tax which shall be levied upon all business carried on within the jurisdiction of the authority levying such tax. By this method we believe it possible to satisfy the legitimate claims of every state to tax income, property, and business, and to do this without imposing unequal and unjust double taxation. We propose, in other words, nothing more than to ask the states to apply logically and consistently the principles that today underlie the greater part of their tax laws. By so doing we are recommending action along the line of least resistance, and for our proposals we find many precedents in the legislation of this and other countries.<sup>15</sup>

It is believed that such supplementary taxes as an automobile license tax, gasoline tax, and inheritance tax, meet the spirit of the Model Tax Plan. A more detailed description of each phase of the proposed tax system will be presented in later parts of this investigation.

As has been explained above, the recommendations of the Model Tax Plan and the advice of competent tax authorities were followed in determining the taxes and the rates of the tax system employed in this investigation. It was the general aim to arrive at a tax system which would raise approximately the same total amount of tax revenue as was actually raised by the existing state and local tax system of the forty-eight states as a whole. This procedure guaranteed a tax system which in terms of revenue raised would agree somewhat with the actual situation existing in the forty-eight states taken as a whole during the period 1922-1932.

The Model Tax Plan recommended certain tax rates for the personal income tax and made a suggestion which led to the determination of the business tax rate. The only recommendation concerning the tangible property tax rate was that it be reasonable. The procedure in determining the rate for this tax will be explained in

<sup>15</sup> *Ibid.*, p. 13.

detail in a later chapter. Here, it is sufficient to state that it was discovered that the difference between the tax revenue which could have been raised by all the taxes in the tax plan of this study, except the property tax, and the tax revenue actually raised in the forty-eight states as a whole during the period 1922-1929, could have been raised by a nominal tax on tangible property. The tax rate on property, therefore, was fixed at a rate which would raise sufficient revenue, along with that raised by the other taxes of the tax system used in this study, to equal the amount actually raised in the forty-eight states as a whole during the period indicated. The property tax rate determined by this procedure meets the recommendation of the Model Tax Plan that it be reasonable.

The foregoing procedure affecting the property tax was modified during the three depression years, 1930, 1931, and 1932. This modification was made necessary by the fact that the total tax collections under existing tax plans remained approximately constant during these three years, while personal income, value of tangible property, and business income decreased considerably. It was felt that property should not be made to bear the heavier rate necessary as a result of the drop in the revenue which would have been realized during the period 1930-1932 from taxes other than the tax on property. Accordingly, the rates of all taxes in this study were adjusted so that the drop in revenue, resulting from depression conditions, would be proportionately distributed among the various taxes of the tax system. The technical details involved in the solution of the foregoing problem are discussed more fully in Chapters II and III.

The purpose of Chapters II to VII is to present a composite picture of the economic ability of the various states to raise tax revenue, provided they adopt a defensible and uniform tax system, that is, a system based on the Model Tax Plan. Chapters II to VI first present a study of the tax revenue which would have accrued to the various states under the different parts of the tax plan used in measuring the relative ability of the states to raise tax revenue. A separate chapter is devoted to each part of the tax plan. In Chapter VII the findings are brought together, presenting a total picture of the ability of the states to raise tax revenue under a tax system proper in structure, efficiently administered, and uniformly applied.

Chapters VIII to X use the findings presented in Chapters II to



VII to measure the ability of the various states to support one of the major governmental responsibilities, namely, public education. This involves, first, a decision concerning the part of the total tax collections of the state and local tax units which should reasonably be expected to be devoted to education. With these data at hand, it is possible to determine the number of dollars of tax revenue which the various states could reasonably have been expected to devote to the support of education and to arrive at indices of the relative ability of the states to finance education.

Chapter X presents in summary form the pertinent facts developed in the investigation and the conclusions drawn therefrom.

Throughout the study the term "education" has been used to mean public elementary and secondary education. It is probable, however, that the relative ability of the states to raise tax revenue for the support of public elementary and secondary education is an approximate indication of the relative ability of the states to support higher education. Chapter VII, therefore, will be of value to those interested in the foregoing problem.

Those who are interested more in the conclusions and less in the technical details of the study should read Chapters I, VII, IX, and X.

## CHAPTER II

### THE PERSONAL INCOME TAX

THE first principle enunciated by the Committee which formulated the Model Tax Plan was "that every person having taxable ability should pay some sort of direct personal tax to the government under which he receives the personal benefits that government confers." The Committee recommended "the personal income tax as the tax best fitted to carry out the principle." By way of explanation and further comment the Committee said:

By the personal income tax we mean a tax levied upon persons with respect to their entire net incomes, which are to be taxed, not objectively as incomes, but as elements determining the taxable ability of the persons who receive them. Such a tax is as fair in principle as any tax can be; under proper conditions it can be well administered by an American state; and in principle it has met with increasing favor during the last twenty-five years, as is proved by the fact of its adoption by a large number of states.<sup>1</sup>

The Committee made the following recommendations concerning income classes and income tax rates:

The personal income tax should, as the former Committee recommended, be levied at a progressive rate varying according to the amount of a taxpayer's net income. That Committee suggested 1 per cent as the lowest rate, with a maximum rate of 6 per cent for incomes in the highest bracket. It also made the further suggestion that the classes of income to which the rates should apply need not be smaller than \$1000 and that a maximum rate should apply to any amount of income exceeding by more than \$5000 the authorized exemption. Thus, with an exemption of \$1000 for a single person, such a person would pay 1 per cent upon any amount of income between \$1000 and \$2000; 2 per cent upon any amount of income between \$2000 and \$3000; 3 per cent upon any amount of income between \$3000 and \$4000; 4 per cent upon any amount of income from \$4000 to \$5000; 5 per cent upon any amount between \$5000 and \$6000; and 6 per cent upon any amount in excess

<sup>1</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), p. 14.

of \$6000. . . . We renew the recommendation of the former Committee, and concur also in the further recommendation that the rates of personal income taxation should, as nearly as possible, be made uniform throughout the several states.<sup>2</sup>

It may be well to show in more detail the Committee's stand on the important point of personal exemptions. In addition to the foregoing quotation the following seems pertinent:

The former Committee recommended that under the personal income tax certain exemptions should be granted to persons having small incomes; but, realizing the conditions vary widely in the different states, wisely went no further than to make some very general suggestions on this subject. It expressed the opinion that exemptions from the personal income tax should not exceed \$600 for a single person, \$1200 for husband and wife, and \$200 more for each dependent up to a number not exceeding three, which would give a total exemption of \$1800 for a family consisting of husband, wife, and three children or other dependents. These figures are much lower than those established by personal income tax laws in force in various states on January 1, 1933; but this fact does not prove them to be wrong. It may show simply that, under a government like ours, legislators are prone to exempt the ordinary voter from paying a personal income tax, and therefore make the exemptions so high that wage earners, farmers, and proprietors of small shops and stores are exempt. We are unwilling to recommend exemptions as high as \$1200 to \$1500 for a single person, \$2000 or \$2500 for husband and wife, and further allowances of \$300 to \$500 for dependents, such as authorized by some states. We believe that the former Committee was right in recommending that exemptions from the personal income tax should be made as small as possible.

In this connection it should be borne in mind that the exemption of small incomes defeats the principles of universality in personal income taxation, which our Committee, like its predecessor, strongly advocates. Administrative, political, and perhaps other reasons make it inevitable that such exemptions will be granted.<sup>3</sup>

#### PROCEDURE FOR DETERMINING AMOUNT OF PERSONAL INCOME TAX REVENUE AVAILABLE IN THE VARIOUS STATES

Subsequent paragraphs of this chapter present the methods employed and the results obtained in estimating the amount of tax revenue which each of the forty-eight states could have raised by

<sup>2</sup> *Ibid.*, pp. 22-23.

<sup>3</sup> *Ibid.*, pp. 21-22.

an income tax which follows the recommendations of the Model Tax Plan in so far as conditions permit.

In order to estimate the amount of tax revenue which each of the forty-eight states would have received from an acceptable and efficiently administered income tax law, it is necessary to know the distribution of income classes for the various states during the years in question. This information is not readily available. The problem, therefore, becomes one of first computing the income classes for the forty-eight states for the years 1922 to 1932, inclusive, and second determining the amount of tax revenue which each state would have received by applying the proposed tax rates to the foregoing data.

The best available data pertaining to the distribution of income classes for the several states during the given years are those in *Statistics of Income*. However, the provisions of the various Federal income tax laws vary considerably. Under certain Federal income tax laws, personal exemptions were \$1,000 for a single person and \$2,000 for the head of a family or a married person living with husband or wife. At other times the law provided for a personal exemption of \$1,500 for a single person and \$3,500 for the head of a family or a married person living with husband or wife. The amount of exemption for each dependent has varied from \$200 to \$400 under the various Federal income tax laws.

Because of the foregoing variations in the Federal income tax laws during the period 1922-1932, data concerning the distribution of income by certain income classes cannot be obtained from the Federal data from year to year. That is, when the Federal Government gave a married person \$3,500 personal exemption, data for income under that amount would be fragmentary since a large part of the income-receiving public consists of married people.

There were other factors, too, which rendered the Federal personal income tax data from year to year unusable for purposes of the present study. First, when the various Federal Acts changed the amount of personal exemptions granted, they usually also changed the tax rates. Second, the change in tax rates usually accompanied changes in the size of income groups subject to the tax. Examples will help to demonstrate these two points. The Federal Revenue Act of 1921, which was applicable to incomes received during the three years 1921, 1922, and 1923, provided that: (1) those who were married and living with husband or wife should file income tax

returns provided their net income amounted to \$2,000 or their gross income amounted to \$5,000, (2) single persons whose net income was \$1,000 or gross income \$5,000 should file returns, (3) personal exemption for a married person living with husband or wife was \$2,500, (4) personal exemption for a single person was \$1,000, (5) credit for each dependent was \$400. The tax rates and income classifications were: (1) first \$4,000 of net income subject to the normal tax be taxed at 4 per cent and (2) the balance over \$4,000 be taxed at 8 per cent.

The Federal Revenue Act of 1924, applicable to incomes received in 1924, changed the provisions of the Act of 1921 at two of the points referred to in the foregoing discussion. First, married persons whose net income was \$2,500 or more were required to file returns. Second, the tax rates and the income groups to which they were applied were changed considerably. The first \$4,000 of net income subject to the tax was taxed at 2 per cent. The second \$4,000 of taxable net income was taxed at 4 per cent. The balance over \$8,000 of taxable net income was taxed at 6 per cent.

The Federal Revenue Act of 1926, applicable to incomes received in 1925, 1926, and 1927, made more fundamental changes at three places. First, married persons living with husband or wife whose net income was \$3,500 or more must file returns. Second, a personal exemption of \$3,500 was granted to such married persons. Third, a single person with a net income of \$1,500 was required to file an income tax return. Fourth, the personal exemption granted a single person was \$1,500. Fifth, the tax rates under the Act of 1924 were changed from 2 per cent, 4 per cent, and 6 per cent to 1½ per cent, 3 per cent, and 5 per cent.

The foregoing discussion is probably sufficient to demonstrate why the Federal income tax data were not used for purposes of the present study. It might also be added that the Act of 1928, applicable to incomes received during 1928, 1929, 1930, and 1931, and the Act of 1932, applicable to incomes received during 1932, made further changes.

The Federal Income Tax Act of 1918 had the lowest exemptions of any Federal income tax law. Under this Act, the personal exemption was \$1,000 for a single person and \$2,000 for the head of a family or a married person living with husband or wife. An exemption of \$200 was allowed for each dependent. Although this Act differs at several points from the Model Tax Plan, the tax collec-

tions under the Act furnish perhaps the best readily available data concerning the distribution of income by certain income classes in each state. Some of the points at which the Act of 1918 differs from the Model Tax Plan are: First, income from Federal securities was partly taxed and partly exempt; but, under the Model Tax Plan, it would be entirely exempt. Second, income from state and local securities was completely exempt; but, under the Model Tax Plan, it would be taxed. Third, the taxation of Federal, state, and local officials raises a similar question. Fourth, the basic date for measuring capital gains, losses, and certain other items under the Act of 1918 was March 1, 1913. In a state income tax law the basic date for measuring items such as the foregoing would depend on the date the tax was put in force. Fifth, in some states (e.g., New York) there is, no doubt, some filing of returns at places of business located in states other than those of residence.

There are other ways in which the Revenue Act of 1918 probably differs from the intention of the Model Tax Plan. In short, the Federal Revenue Act of 1918 is not the same in several instances as the Model Tax Plan, and since these differences exist and vary in importance, the tax collections under the Act of 1918 were different from what the collections would have been under the Model Tax Plan. Although this condition exists, the tax collections under the Federal Act of 1918 furnish perhaps the best readily available data concerning the distribution of income by income classes in each state and afford a reasonable basis for estimating income by classes for the various states for years other than those in which the Act was in force.

The procedure in estimating income by income classes for the years subsequent to the operation of the Federal personal income tax law of 1918, therefore, will be to use the Federal income tax data for 1920, the last year in which the Revenue Act of 1918 was operative, and to apply to these data an index which is believed to reflect changes in subsequent income. The procedure is not original to the present investigation. It was devised and used by a committee of economists, of which Theodore Compton was chairman, after they had made a thorough study of several other possible procedures.<sup>4</sup>

These economists pointed out that the index of bank debits as

<sup>4</sup> Second Preliminary Report to the Governor's Taxation Committee, Columbus, Ohio, *A Study of Personal Income Taxes of the Various States and Probable Yield of Such Taxes if Applied in Ohio* (October 15, 1930).

published in the Standard Statistics Company's Base Book has long been considered a valuable measure of current business conditions within the given geographic area, since most financial transactions are reflected by the banks' business.<sup>5</sup>

These indices represent all the charges made by a bank against the deposits of its customers. This includes both the checks drawn and presented over the counter of the bank itself, direct charges to customer accounts on loans, interest, drafts, etc., and the checks which have been deposited in other banks and cleared through a regular clearing house. Another point of interest is whether or not the bank debits indices were based on reports from a varying number of member banks. Standard Statistics Company recognized the possibility of error at this point and guarded against it in the calculation of the indices. Bank debits, therefore, take account of a wide range of factors associated with personal income. Because of this fact and of other considerations mentioned above, the indices of bank debits were used in the present investigation as a basis for determining the trend of income tax collections in the several states during the period 1922-1932. In a later section of this chapter the validity of the use of the bank debits for the purpose indicated will be considered.

Two exceptions to the procedure described above should be mentioned. First, Standard Statistics Company furnishes no bank debits index for Vermont. The present investigator was advised in this case to use the index shown for New Hampshire, since the conditions in those two states are similar in many respects. Second, the indices used for New York State were based on estimates of the tax collections which this state would have collected during the years 1920 to 1929 provided the state personal income tax law of 1919 had remained in force.<sup>6</sup> The estimates were reported in an Annual Report of the State Tax Commission.<sup>7</sup> The foregoing estimates do not include the years 1930, 1931, 1932. The indices used for these

<sup>5</sup> The reader should not confuse the term "bank debits" with "bank clearings." For many years bank clearings were used as the standard statistical data on the turnover of bank funds. However, these figures include only checks on accounts which have been deposited in other banks, and do not include the direct withdrawals and transactions within the given bank.

<sup>6</sup> The indices were obtained by using the foregoing tax collections for 1920 as a base of 100 and determining the relative value for subsequent years.

<sup>7</sup> State of New York, *Annual Report of the State Tax Commission* (1932), pp. 157-58.

three years were based on a procedure similar to that used for the earlier years.

The foregoing procedure for New York State was made necessary since Standard Statistics Company does not furnish a bank debits index for the entire state of New York. The large amount of banking business done in New York City by interests outside the state renders the bank debits index for New York City, or a combination of the index for New York City and the index for the state outside the city, useless as an indication of the trend of income tax revenue in the state.

The data in Table 1 are for Alabama, and are presented to illustrate the procedure used to arrive at an estimate of taxable income of individuals by income classes within each state. Estimates for other states were arrived at by a procedure similar to that given for Alabama. The explanation of Table 1 follows.

Column 1 of Table 1 shows taxable income classes as given in *Statistics of Income*. The income classes from \$6,000 and over were combined for purposes of this investigation since the National Tax Association recommended that these income classes be taxed at 6 per cent. Column 2 is taken from *Statistics of Income*, except that income classes of \$6,000 and over are combined.<sup>8</sup> The data in column 3, which subtract personal exemptions from net income, are also from *Statistics of Income*. The data in columns 4 to 9, rows A to J, are extensions based on columns 2 and 3. For example, column 3 shows the taxable income in the various brackets; and column 2 shows the number of persons who received this income. Each person pays on his first \$1,000 of taxable income first, that is, unless the taxpayer received an income of more than \$1,000 above his personal exemptions, his total taxable income will fall in the first bracket of taxation. If, on the other hand, his taxable income is more than \$1,000, the first \$1,000 will fall in the first income bracket and the remainder will fall in the second, third, and fourth brackets and so on in successive order until his total taxable income is allocated to the respective income classifications.

In order to clarify the entire procedure, a detailed discussion will be presented for Alabama. In column 3, row A, there is no taxable income. This means that the personal exemptions exceed the net income. In row B, columns 2 and 3, there are 12,982 individuals

<sup>8</sup> Commissioner of Internal Revenue, *Statistics of Income from Return of Net Income for 1920 (1922)*.



TABLE 1  
ESTIMATE OF THE TAXABLE INCOME OF INDIVIDUALS IN ALABAMA, BY INCOME CLASSES AND BY BRACKETS OF TAXATION  
OF VARIOUS SIZES, 1920

Taxable Income Classes	Row	Number of Returns	Taxable Income or Net Less Personal Exemptions	First \$1000	Second \$1000	Third \$1000	Fourth \$1000	Fifth \$1000	Balance	
				Tax Rate						
				1%	2%	3%	4%	5%	6%	
I	2	3		4	5	6	7	8	9	
<hr/>										
\$1,000 to \$2,000	A	5,099	*							
1,000 to 2,000	B	12,982	\$ 6,308,896	\$ 6,308,896						
2,000 to 3,000	C	9,595	*							
2,000 to 3,000	D	12,388	8,057,132	8,057,132						
3,000 to 4,000	E	164	18,028	18,028						
3,000 to 4,000	F	6,285	7,699,398	6,285,000	\$1,414,398					
4,000 to 5,000	G	49	130,270	49,000	49,000	\$ 32,270				
4,000 to 5,000	H	2,337	5,131,759	2,337,000	2,337,000	457,759				
5,000 to 6,000	I	1,102	3,647,238	1,102,000	1,102,000	1,102,000	\$ 341,238			
6,000 and over	J	2,983	31,623,775	2,983,000	2,983,000	2,983,000	2,983,000	\$2,983,000	\$16,708,775	
Total .....	K	52,984	\$62,616,496	\$27,140,056	\$7,885,398	\$4,575,029	\$3,324,238	\$2,983,000	\$16,708,775	
Amount of tax	L			271,400.56	157,707.96	137,250.87	132,969.52	149,150.00	1,002,526.50	

\* Personal exemptions exceed net income.

The data in Columns 1, 2, and 3 are taken from *Statistics of Income from Returns of Net Income for 1920*, Commissioner of Internal Revenue, Treasury Department, Washington, D. C.; Government Printing Office (1922), p. 78.

The data in Columns 4 to 9, Rows A to J, are extensions based on Columns 2 and 3 as explained in the text.

The data in Row K are the summations of the respective columns.

The data in Row L, Columns 4 to 9, are obtained by applying the various tax rates, as shown at the top of each column, to the taxable income in the different income brackets, as shown in Row K.

with a taxable income of \$6,308,896. Each of the 12,982 persons must pay a tax on his first \$1,000 of taxable income, that is, he must have a taxable income larger than \$1,000, before any of his income is taxed in the second bracket. This means that there must be at least 12,982 times \$1,000 before any person in row B would have a taxable income sufficiently large to be put in the second \$1,000 income class. But column 3 shows that the total taxable income for the second row is \$6,308,896. Hence, the total amount falls in the first income class and is taxable at 1 per cent, as shown in column 4. Row C shows no taxable income. Row D shows that 12,388 persons have a taxable income of \$8,057,132. As in the case of row B, this amount is less than 12,388 times \$1,000 and the total amount is taxable at 1 per cent, as shown in column 4. Row E shows that 164 persons have a taxable income of \$18,028. It can be seen by inspection that \$18,028 is less than 164 times \$1,000. Hence, the taxable income shown in row E, \$18,028, is placed in column 4, the first income bracket. In row F it was found that the amount of taxable income was sufficient to fill column 4 and leave \$1,414,398 for column 5. By dividing \$130,270, the taxable income in row G, by 49, the number of taxpayers, it was found that there was sufficient taxable income to fill columns 4 and 5 and leave a remainder of \$32,270 for column 6. In like manner the extensions for rows H and I were obtained. Since there are 2,983 individuals represented in row J, there must be \$2,983,000 of taxable income to fill each of the first five income brackets as shown in columns 4 to 8. But row J also shows that there is a taxable income of \$31,623,775. This means that there is sufficient taxable income to fill the first five income brackets and leave a remainder of \$16,708,775 for column 9.

Row K shows the total taxable income in Alabama in 1920 for each of the six income classes. The data are obtained by adding the various columns.

The income tax revenue, by income classes, for Alabama in 1920 is shown in row L. These data are obtained by multiplying the amount of taxable income in the various income classes, as shown in row K, by the various tax rates given at the top of columns 4 to 9. The total income tax revenue for Alabama in 1920, that is, the summation of row L, is \$1,851,005.41. This sum is given for Alabama in Table 2, as are corresponding figures for the other states for 1920.

The distribution of income classes according to the Federal tax

# The Personal Income Tax

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TABLE 2

TAX REVENUE FROM PERSONAL INCOME TAX, IN THOUSANDS OF DOLLARS, 1922-1932

State	1920			1922	
	Tax Revenue	Bank Debits Index	Base	Bank Debits Index	Tax Revenue
1	2	2	4	5	6
Alabama .....	\$ 1,851,005.41	99	\$ 18,697.02	89	\$ 1,664
Arizona .....	593,980.24	94	6,318.94	95	600
Arkansas .....	1,339,574.86	85	15,759.70	92	1,450
California .....	20,833,843.10	99	210,442.86	91	19,150
Colorado .....	2,649,647.02	123	21,541.85	91	1,960
Connecticut .....	6,809,887.01	104	65,479.68	91	5,959
Delaware .....	811,069.82	108	7,509.91	92	691
Florida .....	2,140,157.33	109	19,634.47	87	1,708
Georgia .....	3,097,183.43	124	24,977.29	87	2,173
Idaho .....	477,775.41	114	4,191.01	99	415
Illinois .....	31,168,407.11	111	280,796.46	94	26,395
Indiana .....	6,472,150.60	101	64,080.70	95	6,088
Iowa .....	8,785,528.70	115	76,395.90	91	6,952
Kansas .....	3,619,313.58	122	29,666.50	91	2,700
Kentucky .....	3,402,800.95	119	28,594.97	90	2,574
Louisiana .....	3,982,685.90	117	34,040.05	92	3,132
Maine .....	1,924,867.75	103	18,688.04	107	2,000
Maryland .....	7,918,454.43	116	68,262.54	90	6,144
Massachusetts .....	24,218,038.48	116	208,776.19	91	18,999
Michigan .....	12,830,886.77	112	114,561.49	88	10,081
Minnesota .....	6,102,249.35	113	54,002.21	92	4,968
Mississippi .....	1,008,085.40	99	10,182.68	84	855
Missouri .....	9,345,612.11	110	84,960.11	92	7,816
Montana .....	717,188.50	117	6,129.82	95	582
Nebraska .....	3,756,815.97	125	30,054.53	95	2,855
Nevada .....	1,994,466.41	122	16,348.09	100	1,635
New Hampshire .....	1,234,141.54	113	10,921.61	92	1,005
New Jersey .....	15,732,467.45	96	163,879.87	93	15,241
New Mexico .....	290,016.11	95	3,052.80	102	311
New York .....	86,694,705.84	100	866,947.06	108.1	93,717
North Carolina .....	2,820,543.96	98	28,781.06	94	2,795
North Dakota .....	522,823.37	117	4,468.58	93	416
Ohio .....	21,404,496.68	113	189,420.32	91	17,237
Oklahoma .....	4,908,877.45	124	39,587.72	100	3,959
Oregon .....	2,395,326.21	123	19,474.20	86	1,675
Pennsylvania .....	38,402,654.77	107	358,903.32	93	33,378
Rhode Island .....	3,656,314.63	115	31,794.04	92	2,925
South Carolina .....	1,477,952.23	129	11,456.99	85	974
South Dakota .....	1,032,394.70	150	6,882.63	83	571
Tennessee .....	3,269,297.15	121	27,018.08	86	2,324
Texas .....	10,132,484.08	115	88,108.56	93	8,194
Utah .....	708,052.87	112	6,321.00	91	575
Vermont .....	879,128.36	113	7,779.90	92	716
Virginia .....	3,435,871.32	109	31,521.76	95	2,995
Washington .....	3,703,706.29	119	31,123.58	91	2,832
West Virginia .....	3,234,858.98	104	31,104.41	92	2,862
Wisconsin .....	5,906,825.35	113	52,272.79	92	4,809
Wyoming .....	457,610.41	92	4,974.03	101	502
United States .....	\$380,152,225.39		\$3,535,889.12		\$339,469

collections of 1920 for the various states is the basis of the estimates of tax revenue for the years 1922 to 1932. With the figures for 1920 as a base, the bank debit indices were used as a means for estimating the trend of tax revenue for subsequent years. The procedure was as follows: the income tax revenue for each state in 1920 (see column 2) was divided by the bank debit index for the state (column 3). This quotient represents a base for each state and is shown in column 4. That is, in Alabama in 1920, the total tax revenue was \$1,851,005. This amount represents 99 units of the index. The quotient obtained by dividing \$1,851,005 by 99 (or \$18,697.02) represents the value of one unit of the index. In other words, column 4 shows the value of one unit of measure of the index scale. In order to determine the amount of income tax revenue for subsequent years, the data for each state as shown in column 4 were multiplied by the bank debit index for the various states during the given years. The data for 1922 are shown in Table 2, to illustrate the procedure used. The results obtained for other years are shown in Table 27.

#### SPECIAL PROBLEM OF TAX RATES INTRODUCED DURING DEPRESSION YEARS

The foregoing procedure was followed for all years except 1930, 1931, and 1932. As was explained in an earlier chapter, conditions which developed in the depression years made it necessary to increase the rates of the various taxes composing the tax system used in this investigation, in order that the total revenue raised would be equivalent to the amount actually raised in the forty-eight states as a whole. This involved a new calculation of the rates of the taxes composing the tax system used in this study. The method used in determining the new tax rates, not only for the personal income tax but also for all the other taxes, is briefly explained at this point. First, the method employed in determining the gasoline tax rates, that is, the use of the weighted average gasoline tax for the country as a whole (Chapter V) was used for the years 1930 to 1932. The method of determining the automobile registration fee was not changed (Chapter V). This treatment of these two sources of revenue was used because expenditures for highway purposes decreased substantially and were proportionately less in these years, and because the weighted average gasoline tax for the country as a whole increased in this period.

The foregoing decision required that for the years 1930 to 1932 the difference between the total revenue raised by the various taxes levied at the rates used for the years prior to 1930 and the total tax revenue actually collected by the forty-eight states be made up by increasing the rates on four taxes, namely: income, property, business, and inheritance. The amount of this difference or deficit for 1930 was \$1,146,780,000 (see Table 3). Table 3 also shows the procedure used in increasing the rates of each of these taxes. The rates on each tax were increased so that the amount of additional revenue raised by the four taxes would be sufficient to equal the deficit of \$1,146,780,000. The percentage of this amount to be raised by increasing the rate on each of the four taxes was determined by the ratio of the total revenue raised by the four taxes under the rates used in the period 1922-1929, to that which was raised by each of these taxes in each of the years 1930, 1931, and 1932.

Table 3 shows the proportion of the \$1,146,780,000 allocated to each of the four taxes: personal income 9.475 per cent; property 77.521 per cent; business 10.489 per cent; and inheritance 2.515 per cent. By multiplying the deficit, \$1,146,780,000, by those percentages, the amount of additional revenue to be raised by each of the four taxes was obtained, that is, in 1930, the personal income tax raised \$108,657,000 additional revenue towards making up the deficit, business \$120,286,000, property \$888,995,000, and inheritance \$28,842,000. By relating these amounts to the tax bases, or to the amounts raised under the old tax rates, the increase in tax rates or the increase in amount of tax necessary to raise an amount equal to the total deficit was obtained. Personal income and inheritance were responsible for 23.87 and 23.86 per cent more revenue than they would have raised under their former tax rates. The business tax rate was raised 1.19 per cent or from 5.00 to 6.19 per cent; and the property tax rate was raised 0.35, or from 1.45 to 1.80 per cent for 1930. The foregoing procedure was also applied during the years 1931 and 1932, and the results are shown in Table 3.

The assumption back of the foregoing procedure was that, with small exceptions, the total tax structure should be used to make up the deficit or the difference between total tax collections under existing tax systems during the period 1930-1932 and the total tax revenue under the tax system based on the Model Tax Plan as used in the present study at tax rates which were used prior to the depres-

TABLE 3

TAX RATES AND INCREASE IN TAXES DURING DEPRESSION YEARS, TAX REVENUE IN THOUSANDS OF DOLLARS, 1930-1932

Item	1930	1931	1932
1	2	3	4
Tax Yield at Rates Used Prior to 1930:			
Personal income .....	\$ 455,247	\$ 333,184	\$ 229,860
Business .....	503,959	311,701	193,995
Property .....	3,724,761	3,183,725	2,808,901
Inheritance .....	120,861	66,126	51,243
Motor fuel .....	491,489	533,182	509,342
Auto license .....	315,451	307,065	286,133
Total .....	\$ 5,611,768	\$ 4,734,983	\$ 4,079,474
Total Actually Collected .....	\$ 6,758,548	\$ 6,544,183*	\$ 6,327,818
Difference between Total and Total			
Actually Collected or Deficit .....	\$ 1,146,780	\$ 1,809,200	\$ 2,248,344
Total of First Four Items Above ..	\$ 4,804,828	\$ 3,894,736	\$ 3,283,999
Per Cent Which Each Item Is of the			
Total of the Four Items:			
Personal income .....	9.475	8.555	6.999
Business .....	10.489	8.003	5.907
Property .....	77.521	81.744	85.533
Inheritance .....	2.515	1.698	1.561
Amount of Additional Tax Left to			
Each of the Four Taxes:			
Personal income .....	\$ 108,657	\$ 154,777	\$ 157,362
Business .....	120,286	144,790	132,810
Property .....	888,995	1,478,913	1,923,076
Inheritance .....	28,842	30,720	35,096
Tax Base of Each of the Four Taxes:			
Personal income .....	\$ 455,247	\$ 333,184	\$ 229,860
Business .....	10,079,296	6,234,016	3,879,901
Property .....	256,880,074	219,567,210	193,717,343
Inheritance .....	120,861	66,126	51,243
Increase in Rate or Percentage In-			
crease in Tax Necessary for:			
Personal income .....	23.87†	46.45†	68.46†
Business .....	1.19	2.32	3.42
Property .....	0.35	0.67	0.99
Inheritance .....	23.86†	46.46†	68.49†
Total Rate Necessary for:			
Business .....	6.19	7.32	8.42
Property .....	1.80	2.12	2.44

\* Estimated. † Increase in per cent of tax collections.

sion years. It was also assumed that, with the exceptions noted previously, each part of the tax plan used in this investigation—personal income, property, business, etc.—should bear a part of the

additional tax load made necessary by the depression proportionate to its contribution to total tax revenue raised in the particular year in question.

#### VALIDITY OF ESTIMATE OF PERSONAL INCOME TAX REVENUE

The validity of the use of bank debits as a basis for determining the trend of income tax collections in the several states during the period covered by the investigation was studied by comparing the trend of income tax revenue arrived at by the method of estimate used in the present study with the personal income tax collections reported in states which had personal income tax laws in effect. Such a comparison encounters several difficulties. First, only a few states had a personal income tax law during the years included in the present study. Second, most states made one or more changes in the tax rates, exemptions, or income brackets to which the tax rates applied. It is difficult to determine the effect of such changes on the tax collections. Third, the efficiency of administration affects the tax collections.

The states selected for the foregoing comparison were those which did not change their personal income tax law for a period of several years (Table 4). The income tax collections in such states were compared with the estimates made in the present study. It should be pointed out that this check is not offered as a completely adequate validation. Such a validation was impossible with existing data and resources for investigation.

In order to make the foregoing comparison, the correlation between the two types of data was calculated separately for each state studied. From these correlations regression equations were set up, and the personal income tax collections were estimated therefrom. The differences or residuals were found between such estimated personal income tax collections and corresponding actual collections. The standard deviation of these differences or residuals was calculated. The standard deviation was then divided by the mean of the estimated personal income tax collections. This ratio of standard error to the mean is here termed *percentage error*, that is, the ratio of the standard deviation of the residual error to the mean value of estimated personal income tax collections.

According to the data in Table 4, the percentage error between the tax collections under existing personal income tax laws and estimates made in the present study varies from 0.73 to 7.71. If

the use of the method of estimating revenue from the income tax for the other states involves no greater error than that suggested by the data for the states dealt with in Table 4, then the figures pertaining to income tax revenue in this chapter are probably acceptable.

TABLE 4  
PERCENTAGE ERROR IN THE PERSONAL INCOME TAX ESTIMATES,  
TAXES COLLECTED AND ESTIMATE IN THOUSANDS

State	1925	1926	1927	1928	1929	Percentage Error
1	2	3	4	5	6	7
<b>Massachusetts:</b>						
1. Taxes collected ....	\$16,959	\$22,097	\$21,115	\$24,149	\$27,720	
2. Estimate .....	24,636	26,515	28,394	28,394	30,899	2.85
<b>Mississippi:</b>						
1. Taxes collected ....	713	628	645	637		
2. Estimate .....	1,385	1,446	1,599	1,578		4.38
<b>New Hampshire:</b>						
1. Taxes collected ....		453	502	563	595	
2. Estimate .....		983	939	972	1,038	3.02
<b>North Carolina:</b>						
1. Taxes collected ....		1,734	1,703	2,354	2,476	
2. Estimate .....		4,001	4,087	4,001	4,001	0.73
<b>North Dakota:</b>						
1. Taxes collected ....	220	302	252	269	307	
2. Estimate .....	541	576	581	675	693	7.71

Note: The data showing the amount of personal income tax collections under existing laws (number 1 for each state) are taken from Mills and Star, *Readings in Public Finance and Taxation*, Macmillan Company, 1932.

The data for estimated personal income tax revenue (number 2 for each state) are taken from Table 27. Column 7 is obtained by the procedure explained on page 25 of the text. By the term percentage error is meant the ratio of the standard error of estimate to the mean.

The Model Tax Plan recommends three major taxes, supported by certain supplementary taxes. The purpose of this chapter was to present estimates of the tax revenue which could have been raised in the various states from 1922 to 1932 by a personal income tax. Chapter III will investigate the tax possibilities which lie in tangible property. In Chapter VII we shall return to the findings of the present chapter as a part of the total picture.



## CHAPTER III

### THE TAX ON TANGIBLE PROPERTY

THE Model Tax Plan proposes a tax on tangible property. The recommendation is that this tax be levied at the situs of the property, the tax being a just claim of the state for protection and other benefits bestowed. The following quotation contains the recommendation of the Committee of the National Tax Association:

. . . the present Committee renews the recommendation of its predecessor, that a tax upon tangible property, levied exclusively at the situs, should be the second part of the tax system which it proposes. The purpose of such tax is to enable the several states to satisfy fairly and adequately their just claims in respect of tangible property enjoying protection and other benefits under their laws.

This tax, it will be observed, is to be confined to tangible property, so that intangibles of all descriptions would be exempt from taxation as property.

. . . The personal income tax we recommend will reach income from intangible property, fully and fairly, at the domicile of the recipient, and will do this whether he lives in the state where the tangible property which the intangibles represent is located or in some other jurisdiction.<sup>1</sup>

#### PROCEDURE FOR DETERMINING AMOUNT OF PROPERTY TAX REVENUE AVAILABLE IN THE VARIOUS STATES

The question whether all tangible property should be assessed in the same way and taxed at the same rate immediately arises. The Committee duly considered the question and made the recommendation that all tangible property (except such factors as iron ore, grain, cotton, etc., in transit) should "be taxed in the same manner and at the same rate as real estate."<sup>2</sup>

Although the Committee concluded that "tangible personal property ought not to be given a special classification, but, so far as it remains taxable, should be taxed like real estate," it recommended

<sup>1</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), p. 30.

<sup>2</sup> *Ibid.*, p. 34.

"the exemption from taxation of a certain minimum of tangible personal property, suggesting such figures as \$200 for an individual and \$400 for a family."<sup>3</sup> According to this recommendation, the common law definition of tangible personal property does not obtain. Rather, the Committee suggested the exemption from taxation of only a specified amount of tangible personal property owned by an individual or a family. For purposes of this study, therefore, such property as manufactured and mining products in stock, manufacturing tools and equipment, etc., is not considered subject to exemption from taxation.

In the original planning of the present investigation it was hoped that the amount of exemptions from taxation of tangible personal property, as suggested by the Committee, could be determined with a reasonable degree of accuracy, but as the study progressed it was decided that such a procedure was almost impossible with existing data. After consulting tax experts, it was decided to omit all tangible personal property owned by an individual or a family. It is believed that the omission of such property does not reduce the amount of tax revenue, because of the procedure used to determine the tax rate, and more particularly does not materially affect the relative ability of the states to raise tax revenue.

So far as the relative ability of the states to raise tax revenue is concerned, it makes no difference whether tangible property is assessed at full value, 50 per cent, or some other proportion of its full value, provided the method is applied uniformly to the states. Likewise, the basis of valuation would have no effect upon the total tax revenue accruing to the various states, if the tax rate is adjusted accordingly.

During the early stages of the study it was thought that assessed value of property in the several states might afford a base for determining the property tax. Assessed values were examined and rejected for purposes of this study for the following reasons. In some states intangible personal property is assessed along with tangible personal property. This meant that if assessed values were accepted, the value of real property alone could be used. The question immediately arose: Would assessed value of real property be a fair basis for comparison among the states? In certain states efficient boards of assessment direct the assessment of real property. In such cases the assessed value of this property is undoubtedly as good a measure

<sup>3</sup> National Tax Association, *op. cit.*, p. 33.

or index (if not the best) of the true value of such property as can be found. Nevertheless, the purpose of Table 5 is to indicate that assessed value of real property would be an unfair measure for interstate comparisons when all states were considered. The assessed value of real property, as shown in column 2, is based on different rates of assessment in different states. By applying the existing rate

TABLE 5

COMPARISON OF ASSESSED VALUE OF REAL PROPERTY TO ACTUAL VALUE IN SPECIFIED STATES, IN THOUSANDS OF DOLLARS, 1922\*

State	Assessed Value	Rate of Assessment†	Full Value as Indicated by Assessment	Estimated True Value	Percentage	
					Assessed Value Is of True Value	Full Value Indicated by Assessment Is of True Value
1	2	3	4	5	6	7
Alabama .....	\$ 624,034	60	\$ 1,040,057	\$ 1,308,247	47.70	79.50
Georgia .....	676,060	35	1,931,600	1,783,798	37.90	108.29
Mississippi .....	463,884	70	662,691	1,042,435	44.50	63.57
Tennessee .....	1,298,608	100	1,298,608	2,499,378	51.96	51.96
South Carolina .	217,973	25	871,892	1,189,944	18.32	73.27
New York .....	15,141,722	88	17,206,502	16,741,770	90.44	102.78
New Jersey ....	3,017,787	100	3,017,787	5,225,946	57.75	57.75
Connecticut ....	1,630,586	100	1,630,586	2,580,042	63.20	63.20

\* Assessed values are those assessed for purposes of state taxation.

† Rate of assessment for 1923. Data for 1922 not available, although they were believed to be identical to those for 1923.

Columns 2 and 3 are taken from *Financial Statistics of States*, United States Bureau of the Census.

Column 4 is based on columns 2 and 3.

Column 5 is taken from *Estimated National Wealth*, United States Bureau of the Census, 1922.

Column 6 shows the per cent column 2 is of column 5.

Column 7 shows the per cent column 4 is of column 5.

of assessment to the assessed value, the total value of real property as indicated by assessment was obtained (column 4). Either column 2 or column 4 or both can be compared to the true value of taxable real property, according to the figures furnished in the Federal Census of Wealth, 1922. Both column 6 and column 7 show that interstate comparisons based on assessed value of real property would be fallacious.

In other words, if assessed value, regardless of the basis of assessment, is taken, New York would be accredited with 90.44 per cent of the true value of its real property (column 6). Under the same condition, South Carolina would be accredited with only 18.32 per cent of the true wealth of its real property. If total value as indicated by assessments (column 4) is taken, Georgia would be ac-

credited with 108.29 per cent (column 7) of the true value of its real property while Tennessee would be accredited with only 51.96 per cent of the true value of its real property.

The estimates of the full value of tangible property used in this study were based on the Census of Wealth of the United States Department of Commerce by states for 1922. The results of this Census have been accepted by economists as a suitable basis for investigation.<sup>4</sup> Data concerning Federal property in the states for 1922 were taken from a study by Norton.<sup>5</sup>

The estimates of the National Industrial Conference Board<sup>6</sup> as to the trend of total wealth for the country as a whole and for individual states were used as the basis for determining the trend of the value of non-personal tangible property in the various states from 1922 to 1930. This appeared to be the best practical procedure. The reliability of the resulting estimates of the value of non-personal property by states will be considered in a later section of this chapter.

The estimates of the trend of total wealth following 1922 issued by the National Industrial Conference Board are arrived at by the following procedure.<sup>7</sup> First, an estimate of the total tangible wealth for the country as a whole was made. The procedure here described is limited to wealth distributed by states. By means of the index of wholesale prices compiled by the United States Bureau of Labor Statistics, it reduces the data in the Federal Census of Wealth for 1912 and 1922 to a common price level. For each year after 1922 it establishes an estimate of national wealth on a common price level on the assumption that it grew by equal annual increments. In analogy to the practice of the United States Bureau of the Census in computing the growth of population, the National Industrial Conference Board computed increments arithmetically, not geometrically. In other words, a uniform amount of increase, not a uniform rate of increase, was assumed. The estimates were then converted to current prices by use of wholesale prices of Bureau of Labor Statistics.

<sup>4</sup> Willford I. King, in his *Wealth and Income of the American People*, p. 4, states: "... after the advent of the Twelfth Census (1900), one can proceed to analyze the figures in very considerable detail with a comfortable feeling of assurance that the results are approximately correct."

<sup>5</sup> John K. Norton, *Ability of the States to Support Education* (1926), p. 72.

<sup>6</sup> In various issues of *The Conference Board Bulletin*.

<sup>7</sup> *The Conference Board Bulletin*, February 20, 1932, pp. 495-97.

Second, from the Federal Census of Wealth the proportion of the total wealth allocated to the states was computed for each state in 1912 and in 1922. If for a given state that proportion changes—for example, from 5 per cent in 1912 to 6 per cent in 1922—the amount of change can be apportioned to the intervening years. Whether the change in proportion of the total was one of increase or one of decrease, it was assumed that such change was gradual.

The 1922 estimate of the United States Bureau of the Census contained data for the various classes of tangible wealth, such as real property and improvements, clothing, personal adornment, furniture, horse-drawn vehicles, and kindred property. The estimates of the National Industrial Conference Board, however, give only total wealth. Since the foregoing estimates of wealth contain Federal property distributed by states and tangible personal property owned by an individual or a family, it is necessary for purposes of this study to eliminate the value of these two groups of tangible property from the foregoing estimates for the years included in this study, 1922 to 1932. The steps in the procedure of this study are as follows: (1) Use the Federal Census of Wealth<sup>8</sup> for 1922 to determine the value of tangible property located in the various states,<sup>9</sup> excluding the value of tangible personal property owned by an individual or a family and the value of tangible property owned by the Federal Government and distributed among the states; (2) determine the per cent which such taxable property is of total tangible wealth; and (3) apply these percentages as indices to the National Industrial Conference Board's data on total tangible wealth distributed by states for the years under consideration.

The National Industrial Conference Board did not furnish data on the total tangible wealth by states for 1931 and 1932.

The effect of the depression made it practically impossible to arrive at a reliable estimate of the value of tangible wealth by states

<sup>8</sup> United States Bureau of the Census, *Wealth, Public Debt, and Taxation: 1922, Estimated National Wealth*.

<sup>9</sup> The items selected as representing tangible property subject to taxation for purposes of the present study, which were shown separately in the Federal Census of Wealth, were the following: real property and improvements; manufacturing machinery, tools, and implements; railroads and their equipment; street railways, shipping, waterworks; manufactured products; and mining products. Other selections would have been made if the data had permitted. Since the emphasis of this study concerns the relative economic ability of the states, the important point is that the same procedure be followed in each state. All but a minor fraction of the full value of all tangible property is included in the items just enumerated.

for 1931 and 1932. Because of economic conditions existing in these years, any estimate of the value of tangible wealth by states must be presented with many reservations. The estimates for 1931 and 1932 made in this investigation are offered with the warning that they probably are much less reliable than those for previous years. The following procedure was used in estimating the value of taxable tangible wealth by states for 1931 and 1932: First, use the estimates of the National Industrial Conference Board for the total value of tangible wealth of the country as a whole for 1931 and 1932. Second, estimate the part of this wealth taxable under the definitions of taxable tangible wealth used in this investigation for the years 1922-1930. This estimate was made on the assumption that the ratio of total tangible wealth to taxable tangible wealth was the same in the country as a whole in 1931 and 1932 as in 1930. Third, distribute taxable tangible wealth for 1931 and 1932 by states, on the assumption that the percentage of the total going to each state is the same for these years as it was for 1930.

With the value of taxable tangible property determined, the amount of tax revenue which would have accrued to the states from the property tax can be determined by applying an acceptable tax rate. The only suggestion made by the Model Tax Plan concerning the tax rate for tangible property was that it be reasonable. It would not seem reasonable to have the tax rate such that for the country as a whole property would pay more taxes under the tax plan used in this investigation than it paid under existing tax plans. Since many feel that the proportion of revenue from the property tax has been too great, a defensible tax rate would be one which gives noticeable tax relief to property owners.

There is another reason for reducing the burden on the property tax. If local initiative is to operate most effectively, the tax system should be such that local tax units will have some leeway in determining their property tax rates for the support of local governmental activities.<sup>10</sup> The Committee which prepared the Model Tax Plan recommended that the administration of the personal income tax and the business tax be in the hands of the states.<sup>11</sup> The property tax,

<sup>10</sup> Paul R. Mort, *The National Survey of School Finance: State Support for Public Education* (1933), pp. 149-88.

Paul R. Mort, *The Financing of the Public Schools of Maine* (1934), p. 185.

Paul R. Mort, *Reconstruction of the System of Public School Support in the State of New Jersey* (1933), Vol. 2, p. 13.

<sup>11</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), pp. 29 and 46.

although appropriate for state administration, seems adapted to local administration. Concerning the property tax, the Committee said:

In the United States the assessment of property has always been entrusted to local officials, and doubtless will continue to be performed by local agencies.<sup>12</sup>

As was briefly explained in an earlier chapter, the following method resulted in fixing the tax rate for tangible property at a figure consistent with the objective stated just above. The amount of revenue raised by the various taxes, other than property tax, composing the tax system used in this study was calculated. The difference between the amount which would have been raised by these taxes for the country as a whole and the amount of tax revenue actually raised under existing tax systems was assigned to taxable tangible property. The rates required to raise the tax revenue assigned to property are given in Table 6 for the years 1922 to 1929. Column 4 of this table indicates the year by year rates necessary in order that the property tax might raise the revenue assigned. In the actual calculations, however, only three tax rates were used—those indicated in column 5.

TABLE 6  
THE PROPERTY TAX RATE, 1922-1929\*

Year	Amount of Taxes Left to Property (in thousands)	Tax Base (in thousands)	Tax Rate	
			Preliminary	Final†
1	2	3	4	5
1922 .....	\$2,919,141	\$250,500,983	1.17	1.20
1924 .....	3,153,553	263,625,114	1.20	
1925 .....	3,203,000	283,084,358	1.13	
1926 .....	3,627,949	278,276,903	1.30	1.30
1927 .....	3,849,673	270,107,651	1.43	
1928 .....	3,976,706	280,821,855	1.42	1.45
1929 .....	4,032,051	282,576,361	1.43	

\* Data showing state and local tax collections for 1923 are not readily available.

† The intention here is to adjust the preliminary tax rate to the nearest multiple of 0.05 per cent of the value of the tax base during the period of years. If one tax rate had been used for the entire period, it would have been 1.30. Chapter IX shows the results secured by the use of this one tax rate.

By applying the tax rates shown in Table 6 to the value of tangible property, the tax revenue which would have accrued to the states can be determined. Table 7 shows the value of taxable tangible property. The amount of tax revenue obtained by employing the rates indicated above is shown in Table 27.

<sup>12</sup> *Ibid.*, p. 55.

TABLE 7  
VALUE OF TAXABLE TANGIBLE PROPERTY, IN THOUSANDS, 1922-1932

State	1922	1923	1924	1925	1926	1927
1	2	3	4	5	6	7
Alabama .....	\$ 2,166,088	\$ 2,271,402	\$ 2,258,414	\$ 2,396,228	\$ 2,362,315	\$ 2,304,592
Arizona .....	955,834	1,045,076	1,034,167	1,150,529	1,122,165	1,073,439
Arkansas .....	1,950,045	2,047,099	2,035,097	2,161,118	2,130,363	2,077,854
California .....	11,137,904	11,834,604	11,747,011	12,656,328	12,434,781	12,053,187
Colorado .....	2,387,699	2,486,469	2,473,900	2,603,288	2,571,495	2,517,522
Connecticut .....	4,484,443	4,840,348	4,795,388	5,259,404	5,146,581	4,951,474
Delaware .....	495,626	532,246	527,493	575,807	563,927	544,126
Florida .....	2,009,782	2,187,257	2,165,845	2,398,077	2,341,254	2,243,256
Georgia .....	2,892,673	3,081,403	3,057,649	3,303,359	3,243,973	3,140,789
Idaho .....	1,039,952	1,132,873	1,121,347	1,243,380	1,213,550	1,162,703
Illinois .....	18,446,932	19,268,523	19,165,638	20,236,803	19,076,271	19,525,735
Indiana .....	7,155,798	7,564,472	7,513,416	8,045,052	7,916,195	7,691,708
Iowa .....	8,480,129	8,808,726	8,767,583	9,195,959	9,091,890	8,911,988
Kansas .....	5,131,044	5,332,501	5,307,108	5,569,228	5,505,336	5,394,755
Kentucky .....	2,600,532	2,739,625	2,722,203	2,904,409	2,860,128	2,783,906
Louisiana .....	2,388,638	2,534,143	2,515,967	2,706,115	2,659,977	2,580,282
Maine .....	1,586,130	1,690,540	1,685,311	1,833,132	1,797,560	1,735,112
Maryland .....	2,993,727	3,185,223	3,161,218	3,410,274	3,349,510	3,245,237
Massachusetts ..	10,749,086	11,540,858	11,442,317	12,474,924	12,223,190	11,789,280
Michigan .....	9,223,703	9,935,517	9,847,363	10,775,810	10,549,360	10,159,541
Minnesota .....	6,833,146	7,194,537	7,149,771	7,620,613	7,436,753	7,308,051
Mississippi .....	1,540,156	1,638,682	1,625,952	1,753,963	1,723,551	1,669,093
Missouri .....	7,881,418	8,370,653	8,341,438	8,939,962	8,793,995	8,524,627
Montana .....	1,647,510	1,763,716	1,749,636	1,900,811	1,863,759	1,800,028
Nebraska .....	4,373,259	4,563,908	4,540,069	4,789,966	4,729,136	4,623,916
Nevada .....	380,936	390,277	388,871	400,825	398,013	393,090
New Hampshire ..	1,093,362	1,175,209	1,165,661	1,272,281	1,246,024	1,201,466
New Jersey .....	9,473,172	10,142,091	10,058,557	10,930,840	10,718,793	10,351,728
New Mexico .....	603,170	640,106	635,150	683,299	671,070	651,436
New York .....	30,905,089	32,333,496	32,155,752	34,019,140	33,566,019	32,740,721
North Carolina ..	3,352,002	3,656,641	3,619,012	4,015,960	3,919,305	3,752,558
North Dakota ..	1,999,940	2,041,348	2,036,487	2,091,571	2,077,800	2,055,119
Ohio .....	15,615,373	16,756,740	16,614,856	18,103,800	17,741,487	17,115,675
Oklahoma .....	2,963,088	3,059,156	3,047,284	3,172,678	3,142,257	3,088,835
Oregon .....	2,678,028	2,833,520	2,813,941	3,015,999	2,967,443	2,882,077
Pennsylvania ..	23,622,093	25,120,712	24,934,742	26,887,838	26,411,852	25,590,962
Rhode Island ..	1,561,579	1,671,678	1,657,882	1,801,517	1,766,623	1,706,572
South Carolina ..	1,718,163	1,837,588	1,822,585	1,978,337	1,940,470	1,874,740
South Dakota ..	2,364,226	2,550,095	2,526,663	2,769,067	2,710,082	2,608,272
Tennessee .....	3,312,102	3,578,236	3,545,337	3,892,350	3,807,751	3,662,052
Texas .....	7,609,743	8,001,483	7,952,816	8,463,434	8,339,063	8,124,370
Utah .....	1,131,160	1,210,370	1,200,793	1,303,192	1,278,145	1,234,681
Vermont .....	616,154	651,980	647,590	694,421	682,713	662,956
Virginia .....	3,790,498	4,070,572	4,035,701	4,399,906	4,311,567	4,158,136
Washington .....	4,336,488	4,574,879	4,545,249	4,855,941	4,779,750	4,649,377
West Virginia ..	4,147,243	4,434,559	4,399,097	4,774,111	4,682,795	4,524,988
Wisconsin .....	6,163,749	6,504,882	6,514,732	7,038,168	6,910,443	6,691,039
Wyoming .....	513,271	559,938	554,155	615,144	600,422	574,660
United States ..	\$250,500,983	\$265,454,957	\$263,625,114	\$283,084,358	\$278,276,902	\$270,107,651

#### VALIDITY OF ESTIMATE OF PROPERTY TAX REVENUE

In order to obtain some indication of the validity of the method used in this study in calculating the trend of the value of taxable tangible property, the correlation was computed between the value



TABLE 7 (Continued)

State	1928	1929	1930	1931	1932
8	9	10	11	12	13
Alabama	\$ 2,383,961	\$ 2,392,620	\$ 2,211,514	\$ 1,890,283	\$ 1,667,738
Arizona	1,140,347	1,147,620	993,440	840,139	749,169
Arkansas	2,149,866	2,157,368	1,991,589	1,702,303	1,501,889
California	12,576,304	12,631,876	11,435,227	9,774,214	8,623,486
Colorado	2,591,458	2,599,591	2,429,538	2,076,638	1,832,153
Connecticut	5,218,686	5,247,528	4,635,910	3,962,525	3,466,013
Delaware	571,847	574,223	511,653	437,333	385,845
Florida	2,377,489	2,392,312	2,085,141	1,782,266	1,572,438
Georgia	3,281,832	3,297,421	2,973,023	2,541,180	2,242,004
Idaho	1,232,533	1,239,991	1,079,992	923,118	814,439
Illinois	20,142,215	20,208,592	18,797,243	16,066,868	14,175,299
Indiana	7,998,048	8,031,275	7,330,261	6,265,511	5,527,866
Iowa	9,158,042	9,184,664	8,620,757	7,368,558	6,501,050
Kansas	5,546,293	5,562,675	5,217,005	4,459,214	3,934,226
Kentucky	2,888,439	2,899,328	2,659,774	2,273,431	2,005,778
Louisiana	2,689,338	2,701,222	2,450,954	2,094,042	1,848,303
Maine	1,741,436	1,829,179	1,634,720	1,397,270	1,232,768
Maryland	3,388,519	3,403,523	3,075,698	2,628,041	2,319,433
Massachusetts	12,383,836	12,447,598	11,087,073	9,476,631	8,360,938
Michigan	10,694,126	10,750,739	9,527,906	8,143,940	7,185,145
Minnesota	7,579,045	7,608,623	6,987,494	5,972,533	5,269,380
Mississippi	1,742,647	1,751,134	1,582,103	1,352,296	1,193,089
Missouri	8,891,796	8,931,276	8,089,552	6,914,512	6,100,460
Montana	1,887,472	1,897,106	1,697,021	1,450,522	1,279,750
Nebraska	4,767,772	4,782,568	4,454,578	3,807,533	3,359,268
Nevada	399,419	400,122	384,652	328,779	290,072
New Hampshire	1,262,733	1,269,098	1,128,264	964,379	850,842
New Jersey	10,854,535	10,908,350	9,758,158	8,340,747	7,358,782
New Mexico	679,051	681,883	618,864	528,971	466,695
New York	33,854,748	33,969,906	31,514,874	26,937,212	23,765,867
North Carolina	3,981,282	4,005,630	3,481,777	2,976,935	2,625,663
North Dakota	2,086,711	2,089,951	2,017,046	1,724,062	1,521,086
Ohio	17,972,894	18,064,950	16,104,213	13,763,302	12,142,935
Oklahoma	3,161,548	3,168,968	3,003,508	2,567,236	2,204,993
Oregon	2,997,986	3,010,517	2,744,238	2,345,627	2,069,474
Pennsylvania	26,715,795	26,836,225	24,261,317	20,737,263	18,295,844
Rhode Island	1,789,344	1,797,459	1,608,381	1,374,757	1,212,906
South Carolina	1,964,047	1,974,050	1,769,000	1,512,046	1,334,031
South Dakota	2,748,059	2,762,603	2,443,437	2,088,518	1,842,635
Tennessee	3,861,801	3,882,951	3,425,488	2,927,922	2,583,215
Texas	8,418,630	8,450,302	7,776,688	6,647,093	5,864,524
Utah	1,294,352	1,300,246	1,165,433	996,149	878,871
Vermont	600,030	602,957	631,491	539,764	476,214
Virginia	4,368,135	4,389,832	3,910,167	3,342,199	2,948,719
Washington	4,828,851	4,848,322	4,437,734	3,793,135	3,346,566
West Virginia	4,741,308	4,764,358	4,270,546	3,650,232	3,220,487
Wisconsin	6,991,936	7,024,063	6,334,508	5,414,395	4,776,953
Wyoming	609,886	613,566	533,124	455,686	402,038
United States	\$281,296,428	\$282,576,361	\$255,880,074	\$219,567,210	\$193,777,343

of taxable tangible property and the assessed value of real property taxed for state purposes. It should be emphasized that this test of validity was not applied to all forty-eight states during the entire period. Rather, the test was applied to nineteen states during the years 1923 to 1929, inclusive. The choice of states and the period

of years were determined by practical conditions prevailing in the states. The nineteen states were chosen because the rate of assessment of general property was unchanged during the period studied. The period 1923-1929 was selected because the later years presented the states with certain unusual problems due to the depression. This latter factor may have influenced assessed valuation of real property during the depression years.

The aforementioned correlations were calculated separately for each state studied. A regression equation was set up using the assessed value of real property taxed for state purposes as the basis for predicting the value of taxable tangible property. The difference between the actual value of taxable tangible property in any given year and the estimated value derived from knowledge of the value of real property in that year may be considered a *residual error*. The standard deviation of these residual errors, which is usually called the standard error of estimate, becomes a measure of the variation in taxable tangible property which is independent of variation in real property, that is, variation related to fluctuation in other things. If there were perfect agreement between the value of real property and that of taxable tangible property, this standard error would be zero, since all the differences would be zero. For any given state, the ratio of this standard error to the mean value of taxable tangible property for that state is here termed the *percentage error* and is used to study the relative amount of error which would be incurred by the method proposed. In the fraction  $\frac{\sigma_{t-r}}{M_t}$ , the numerator is this standard error of estimate incurred when value of tangible taxable property ( $t$ ) is estimated from real property ( $r$ ). The denominator is the mean of the actual value of taxable tangible property ( $t$ ).

Table 8 reveals that the percentage error for the states studied varied from 0.76 to 3.21.

It will be recalled that taxable tangible property includes real property as well as other forms of wealth. Such percentage errors as those which are shown in Table 8 would be expected, on the assumption that the true value of taxable tangible property showed approximately the same degree of increase or decrease as is shown by assessed value of real property. It might be that part of the error obtained by using the value of tangible property instead of assessed value of real property as the property tax base is due to a

different rate of change in the value of those other items of wealth from the rate of change in *assessed* value of real property. If a separate economic law governed the change in value of *taxable* tangible property other than real property, the percentage errors shown in columns 2 and 4 of Table 8 overmeasure the degree of error inherent in the value of tangible property used in the present study, in which case the percentage error of 2.35 for Alabama might be caused partly by a different rate of change in the value of real property as compared to that of other forms of taxable tangible wealth. That is, in either case, whether or not a special economic law governed the change in value of tangible property other than real estate, the error inherent in the value of taxable property used in the present study would not have been greater than that shown in Table 8.

TABLE 8  
PERCENTAGE OF RESIDUAL ERROR TO MEAN VALUE OF TAXABLE TANGIBLE  
PROPERTY

State	Percent- age Error	State	Percent- age Error
1	2	3	4
Alabama .....	2.35	New Mexico .....	2.84
Connecticut .....	2.67	Ohio .....	2.18
Kansas .....	1.73	Oklahoma .....	1.31
Louisiana .....	1.85	Rhode Island .....	2.53
Maine .....	3.11	South Carolina .....	2.37
Massachusetts .....	2.42	Utah .....	0.76
Minnesota .....	2.49	Vermont .....	1.93
Missouri .....	2.39	West Virginia .....	3.21
Nevada .....	1.44	Wisconsin .....	2.45
New Hampshire .....	2.55		

The data in columns 2 and 4 are based on the value of taxable tangible property and the value of real property taxed for state purposes as shown by assessed value for the years 1923 to 1929. The figure for each state was obtained by (1) computing the correlation between the assessed value of real estate taxed for purposes of state taxation and the value of taxable tangible property; (2) setting up a regression equation using assessed value of real property taxed for state purposes as the basis for predicting the value of taxable tangible property; (3) calculating the standard deviation of the difference between the actual value of taxable property in the given years and the estimated value derived from knowledge of the value of real property in corresponding years; and (4) determining the ratio of the standard error to the mean value of taxable tangible property. The latter ratio is termed percentage error.

Another observation should be mentioned. State and local tax collections in the forty-eight states as a whole during the eleven years from 1922 to 1932, inclusive, increased at a rate faster than the increase in value of the tax base from which these taxes were drawn. Thus, it was necessary (1) to increase the tax rates

on certain or all of the taxes, or (2) to levy new taxes, or (3) to increase assessed value of property faster than its real value increased, or (4) to adopt a combination of these items. It will be recalled that for the purpose of the present study the problem was met by increasing the tax rate on property (Table 6). Available data indicate that under existing tax systems property was responsible for approximately 80 per cent of the total state and local tax collections during the decade 1922-1932. This means that although there were four possibilities whereby the states might meet the increased demands for tax revenue, several states undoubtedly found it necessary to look to the property tax for some additional tax revenue. It is probable that some states increased the property tax rate and let the assessed value increase in proportion to its true value. On the other hand, it may be that certain states increased the assessed value faster than the increase in true value, in order to accomplish the same result. The latter possibility was demonstrated during the depression years 1930 to 1932. According to the data in *Financial Statistics of States*, United States Bureau of the Census, the assessed value of real property in several states in 1932 was approximately the same as it was in 1929. The point of interest at this time is that the degree of error shown in Table 8 may have been due in part to the choice which the given states made in order to raise increased tax revenue rather than to any error inherent in the procedure used in the present study. Table 9 illustrates this possibility. The data for Kansas show a close ratio to the value of tangible property used in the present study. It is probable that in Kansas the additional tax on property was obtained by increase in tax rates while the assessed value of real property was made as nearly as possible on the basis of true value. The ratio for Wisconsin from 1923 to 1925 was 1.7187, 1.6355, and 1.7262. The calculations in the present study were based on the same property tax rate during these years (Table 6). The foregoing ratio for Wisconsin dropped to 1.5430 in 1926 (Table 9). During 1926 it was found necessary for purposes of the present study to increase the tax rate on property from 1.20 to 1.30 (Table 6). The ratio for Wisconsin in 1927 dropped to 1.4238 and remained close to that figure during 1928 and 1929 (Table 9). The present study used the same property tax rate from 1922 to 1925, inclusive. The property tax rate was increased from 1.20 to 1.30 in 1926 and from 1.30 to 1.45 in 1927, where it remained during 1928 and 1929.

TABLE 9  
COMPARISON OF ASSESSED VALUE OF REAL PROPERTY TO VALUE OF TAXABLE TANGIBLE PROPERTY IN SPECIFIED STATES, IN  
THOUSANDS OF DOLLARS

State	1923	1924	1925	1926	1927	1928	1929
1	2	3	4	5	6	7	8
<b>Kansas</b>							
Real property .....	\$ 2,317,397	\$ 2,336,887	\$ 2,342,372	\$ 2,336,275	\$ 2,385,327	\$ 2,349,095	\$ 2,402,658
Tangible property .....	5,332,501	5,307,108	5,569,228	5,595,336	5,394,735	5,546,293	5,562,675
Ratio.....	2.3011	2.2710	2.3776	2.3365	2.2616	2.3610	2.3152
<b>Wisconsin</b>							
Real property .....	3,819,758	3,983,229	4,077,203	4,478,477	4,690,508	4,758,250	5,002,219
Tangible property .....	6,564,882	6,514,732	7,038,168	6,910,443	6,601,039	6,991,936	7,024,063
Ratio .....	1.7187	1.6355	1.7262	1.5430	1.4238	1.4694	1.4042
<b>Massachusetts</b>							
Real property .....	4,066,062	5,249,629	5,560,636	5,839,812	6,020,550	6,156,164	6,202,964
Tangible property .....	11,540,858	11,442,317	12,474,924	12,223,190	11,789,280	12,383,836	12,447,968
Ratio .....	2.3239	2.1796	2.2434	2.0931	1.9582	2.0116	1.9780

The value of real property as shown in columns 2 to 8 is taken from various issues of *Financial Statistics of States*, United States Bureau of the Census.

The value of tangible property in columns 2 to 8 is taken from Table 7 and is the base for estimating the tangible property tax for purposes of the present investigation.

The ratio in each case is obtained by dividing the value of tangible property by the value of real property.

An examination of the data for Massachusetts shows the same characteristics as those pointed out above for Wisconsin (Table 9). Other states which illustrate the same tendency could have been included.

If the foregoing possibility were what happened in actual practice, the percentage error in the property tax due to errors inherent in the procedure used in the present study would have been proportionately smaller than those shown in Table 8. That is, if instead of increasing the property tax rate from 1.20 to 1.30 in 1926 and then to 1.45 in 1927, the value of tangible property as used in the present study had been increased the same relative amount, the ratios for Wisconsin and Massachusetts in 1926 would have been closer to the corresponding ratios for 1923, 1924, and 1925. In this case, the figures for these states in columns 2 and 4 of Table 8 would have been smaller.

The following statements are offered as a brief summary of the discussion concerning the validity of the property tax. The percentage of the residual error to the mean value of taxable tangible property used in the present study was found to vary from 0.76 to 3.21 for the different states (Table 8). Although this degree of error is probably unimportant, it overmeasures the error inherent in the procedure used to determine the property tax, (1) provided the value of real property changed at a rate different from change in value of taxable tangible property other than real property, and (2) provided the given state, in order to meet the increased demands for tax revenue or the demands of voters for decrease in the property tax, changed the assessed value of real property at a rate different from the change in true value of such property.

## CHAPTER IV

### THE BUSINESS TAX

ONE of the three major parts of the Model Tax Plan is a business tax. The Committee of the National Tax Association, in recommending the business tax, said:

The former Committee recommended, in addition to income and personal property taxes, a separate tax on business. In this recommendation we concur.<sup>1</sup>

Elsewhere in this Report our Committee, like its predecessor, approves . . . the levy of a business tax upon income from business, treated objectively and without consideration of whether it is received by residents or non-residents.<sup>2</sup>

The Committee considered the various methods which may be employed in the taxation of business and called attention to three general methods: (1) the imposition of a tax of fixed amount, (2) the levy of a tax upon net income, and (3) a formula based on such factors as gross receipts, rentals, and the like which have been considered as fair approximations of the profits of business. In commenting on the latter method the Committee said such a system of business taxation would accomplish "very tolerable results." The Committee also said:

But administrative difficulties multiply as the basis of taxation is made more complicated, so that ultimately a point is reached where such a system becomes less convenient and in some ways more troublesome than a system which at the start adopts net income as its basis.<sup>3</sup>

The Committee has come to the conclusion, therefore, that the proposed business tax should, except in certain cases, be levied upon the net income derived from business carried on within the state levying the tax. Prior to the coming of the federal income tax, it would prob-

<sup>1</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), p. 40.

<sup>2</sup> *Ibid.*, p. 15.

<sup>3</sup> *Ibid.*, p. 41.

ably have been unwise and impracticable to adopt net income as the basis of business taxation. But today every business concern of any considerable size is obliged to make a return of its net income to the Federal Government; and it is, therefore, both practicable and convenient to impose a business tax upon net income. This will involve, of course, in the case of interstate concerns, the determination of the proportion of the income derived from business carried on in each state. But there are practical methods of making such a determination, so that no serious difficulty need arise at this point. With proper administration, we believe that a tax thus levied upon net income will be so far superior to any tax levied according to external indices of business profits (such as gross receipts, rentals, and the like) that there can be no doubt concerning the advisability of adopting it.<sup>4</sup>

The "certain cases" referred to were discussed at some length by the Committee. The phrase referred to "interstate or foreign commerce" which, because of constitutional limitations, the state has no power to regulate. Taxation, of course, is one way in which interstate commerce can be regulated provided it "imposes what the United States Supreme Court regards as a direct burden on interstate or foreign commerce." In concluding the discussion on this point the Committee said:

Most foreign corporations, however, carry on some intrastate commerce, and do other business, such for example as manufacturing or processing, which is technically not commerce at all but is business of an intrastate character. The difficulties encountered, therefore, are not as important as they might at first seem. . . . With all except a very small minority of business concerns, there is no constitutional difficulty in imposing an adequate tax upon business income.<sup>5</sup>

The question immediately arises: Is the proposed business tax to be levied in addition to existing taxes on business or in lieu of such taxes? Under many existing tax systems, business bears the burden of several taxes. The fiscal significance of several of these taxes is small. They frequently result in unequal or discriminatory double taxation of interstate industries and investments and are unsatisfactory in other ways. Yet these taxes exist; and if trends can be relied upon to give even a reasonably accurate basis for forecasting, they will probably continue to exist until a better plan of taxation has demonstrated its value. The business tax proposed by the Com-

<sup>4</sup> National Tax Association, *op. cit.*, pp. 43-44.

<sup>5</sup> *Ibid.*, p. 43.



mittee is designed to replace these less satisfactory taxes. In the words of the Committee:

The [business] tax we propose is designed as a substitute for the various license or other business taxes now imposed, except such as are levied purely for police purposes, or, like amusement taxes or liquor licenses, are levied for special reasons which justify special taxation. What we are proposing, therefore, is in reality a rational and uniform method of taxing business, designed to replace the heterogeneous and frequently illogical taxes now imposed. It should be levied not in addition to but in lieu of the existing taxes to which we have referred (licenses, tax on intangibles, and other so-called business taxes), and therefore is not strictly speaking, an additional tax. In the form in which we propose to have it levied, it will yield more revenue than is now obtained from business taxes, and should receive favorable consideration as a revenue measure.<sup>6</sup>

Because of the nature of available data, the procedure used to estimate the tax revenue from a business tax was divided into two parts. First, it was necessary to determine the total amount of taxable business done by corporations in the various states during the years covered by this investigation. Second, the amount of unincorporated business was then determined and added to that for corporate business.

CORPORATE NET INCOME: ITS AMOUNT AND THE PROCEDURE  
USED TO DETERMINE IT

Readily available data concerning the amount of business done by corporations in each state during the years covered by this investigation do not exist. However, the Committee made a suggestive statement when it said:

Prior to the coming of the federal income tax, it would probably have been unwise and impracticable to adopt net income as the basis of business taxation. But today every business concern of any considerable size is obliged to make a return of its net income to the Federal Government; and it is both practical and convenient to impose a business tax upon net income. This will involve, of course, in the case of interstate concerns, the determination of the proportion of the income derived from business carried on in each state.<sup>7</sup>

The foregoing suggestions concerning the source of basic data as

<sup>6</sup> *Ibid.*, p. 40.

<sup>7</sup> *Ibid.*, pp. 43-44.

well as the suggestion that some method must be devised to allocate the proper proportion to each state governed the selection of the procedure used in this study. It might be well, however, to point out some of the reasons why the data referred to in the foregoing quotation and reported in *Statistics of Income* do not show the amount of net business actually carried on within each state. In the first place, the data were collected by the Federal Government for its own purpose. Since the Federal law applies in exactly the same way to the business done by corporations in any state, it makes no difference to the Federal Government so far as the tax collections are concerned if a given corporation chooses to report all of its business through one of its offices, say in New York City or San Francisco. In fact it is quite conceivable that, because of administrative costs and other problems, the Federal Government would prefer each corporation to file one report at certain central offices.

The following examples are mentioned to show that the point is not merely a hypothetical one but refers to the method commonly used. The Union Pacific Railroad, with a charter from the State of Utah, conducted its business in eleven different western states and, without a mile of track east of the Mississippi River, paid its 1930 Federal corporation income tax of \$3,500,000 through its New York office. The General Motors Corporation, which secured its charter under the laws of Delaware, maintains general offices in Detroit, New York, and Wilmington. Yet it pays its Federal corporation income tax in Michigan.

Certain data in *Statistics of Income* concerning corporate net income are presented by states. However, these data are of practically no value for this investigation, since they do not represent the amount of corporate business done in the various states. Rather, they represent the amount of corporate business done by corporations which filed tax returns in the respective states, although the business may have been conducted in several or all of the forty-eight states. The figures representing the total corporate net income for the United States during the years covered by the study, however, are useful. Some defensible method of allocating to each state its share of the total had to be discovered. The procedure used to accomplish this end is indicated below.

After studying some fifty indices, Compton<sup>8</sup> concluded that the

<sup>8</sup> Theodore Compton, *Business Taxes*, Fifth Preliminary Report of the Committee on Research submitted to the Governor's Taxation Committee, Columbus, Ohio (1931).

average annual income of the people of the various states, as shown by Leven and King,<sup>9</sup> was the best index for this purpose. It seems tenable that the amount of business done by corporations in a given state would have a direct relation to the current income of the people within that state, since current income determines the buying power of the people. The procedure used in this study is the one devised by Compton.

TABLE 10  
ESTIMATE OF CORPORATE NET INCOME, 1922

State	Per Cent of National Income Received in State	Estimated Corporate Net Income	State	Per Cent of National Income Received in State	Estimated Corporate Net Income
1	2	3	4	5	6
Alabama . . . . .	1.07	\$ 74,348,072	Nevada . . . . .	.10	\$ 6,948,418
Arizona . . . . .	.33	22,929,779	New Hampshire . . . . .	.43	29,878,197
Arkansas . . . . .	.84	58,366,711	New Jersey . . . . .	3.74	259,870,832
California . . . . .	4.95	343,946,689	New Mexico . . . . .	.25	17,371,045
Colorado . . . . .	.99	68,789,338	New York . . . . .	15.14	1,051,990,480
Connecticut . . . . .	1.58	109,785,004	North Carolina . . . . .	1.34	93,108,801
Delaware . . . . .	.23	15,981,361	North Dakota . . . . .	.43	29,878,197
Florida . . . . .	.61	42,385,350	Ohio . . . . .	5.88	408,566,977
Georgia . . . . .	1.46	101,446,902	Oklahoma . . . . .	1.48	102,836,586
Idaho . . . . .	.37	25,709,146	Oregon . . . . .	.84	58,366,711
Illinois . . . . .	7.72	536,417,867	Pennsylvania . . . . .	9.40	653,151,289
Indiana . . . . .	2.49	173,015,607	Rhode Island . . . . .	.75	52,113,135
Iowa . . . . .	1.97	136,883,834	South Carolina . . . . .	.83	57,671,869
Kansas . . . . .	1.51	104,921,111	South Dakota . . . . .	.49	34,047,248
Kentucky . . . . .	1.40	97,277,852	Tennessee . . . . .	1.23	85,465,541
Louisiana . . . . .	1.13	78,517,123	Texas . . . . .	3.60	250,143,047
Maine . . . . .	.68	47,249,242	Utah . . . . .	.37	25,709,146
Maryland . . . . .	1.52	105,615,953	Vermont . . . . .	.30	20,845,254
Massachusetts . . . . .	5.02	348,810,582	Virginia . . . . .	1.40	97,277,852
Michigan . . . . .	3.83	266,124,408	Washington . . . . .	1.49	103,531,428
Minnesota . . . . .	2.00	138,968,359	West Virginia . . . . .	1.08	75,042,914
Mississippi . . . . .	.73	50,723,451	Wisconsin . . . . .	2.33	161,898,139
Missouri . . . . .	2.87	199,419,596	Wyoming . . . . .	.25	17,371,045
Montana . . . . .	.50	34,742,090	United States . . . . .	100.00	\$6,948,417,967
Nebraska . . . . .	1.05	72,958,389			

Table 10 presents estimates of the amount of corporate net income by states for 1922, and illustrates the procedure used to secure these data as well as similar data for other years. Column 2 presents the per cent of the total national income which was received by indi-

<sup>9</sup> Maurice Leven and Willford I. King, *Income in the Various States* (1926).

viduals in the various states.<sup>10</sup> These per cents were used as indices and applied to the national corporate net income for each year under consideration. For example, in order to determine the amount of corporate net income for Alabama in 1922, the national corporate net income of \$6,948,417,967 as shown at the bottom of column 6 is multiplied by .0107, the index for Alabama in column 2. The same procedure was used for the other states and for the several years.

TABLE 11  
CORPORATE NET INCOME IN THE FORTY-EIGHT STATES,  
1922-1932

Year	Amount	Year	Amount
1	2	3	4
1922 .....	\$6,948,417,967	1928 .....	\$10,583,643,732
1923 .....	8,292,885,479	1929 .....	11,624,220,275
1924 .....	7,554,581,584	1930 .....	6,405,473,334
1925 .....	9,560,963,726	1931 .....	3,653,101,467
1926 .....	9,646,879,755	1932 .....	2,130,376,272
1927 .....	8,952,857,492		

Table 11 shows the amount of corporate net income in the forty-eight states as a whole during the years included in the present study.

#### UNINCORPORATED BUSINESS: ITS AMOUNT AND THE PROCEDURE USED TO DETERMINE IT

Because of the different nature of available data,<sup>11</sup> the procedure used to determine the amount of unincorporated business done in the various states is quite different from that used to determine the corporate net income by states. In filing personal income tax returns with the Federal Government, individuals are required to specify the sources of their income. Since individuals are required to file their personal income tax returns in the state of domicile, and since most unincorporated business is done in the home state of the individual who conducts the business, the data contained in *Statistics of Income* under the headings "Business" and "Partnership" were taken as the amount of unincorporated business carried on in the various states. Concerning this point the Committee said:

<sup>10</sup> Maurice Leven and Willford I. King, *op. cit.*, pp. 235-40, for basic data.

<sup>11</sup> The procedure used in the present study is the one used by Compton in his study for the Governor's Taxation Committee of Ohio.

"In practice we find that unincorporated business concerns mostly do an intrastate business."<sup>12</sup>

The data showing the amount of unincorporated business by states are not given here because they are furnished in *Statistics of Income*, a United States Government publication which is readily available. The amount of unincorporated business can also be obtained by subtracting from the value of taxable business given in Table 12 the corporate net income calculated from data in Tables 10 and 11.

#### FISCAL RETURNS FROM BUSINESS TAX

The total amount of taxable business done in the various states during the years 1922 to 1932 has been determined for corporations and for unincorporated concerns. To discover the potential tax possibilities which lie in a business tax, it is necessary to add the figures for corporate and unincorporated business (since both corporate concerns and unincorporated enterprises receive the same type of benefits from government) and to apply a defensible tax rate.

The Committee, in its report on the Model Tax Plan, did not specify a definite rate for the business tax. It gave a valuable suggestion, however, when it said:

In the form in which we propose to have it (the business tax) levied, it will yield more revenue than is now obtained from business taxes. . . .<sup>13</sup>

Obviously the rate of the business tax should be proportional and not progressive. Neither the absolute amount of the net income nor the relation it bears to the invested capital has any bearing upon the question of how much a business concern should pay for the benefits it derives from the government under which it carries on its business. A concern which invests a large capital, and therefore earns a large income, cannot be assumed to benefit more than in direct proportion to the size of its investment or the amount of its income; while the relation of the income to the invested capital is an indication of the success with which the business has been managed rather than the amount of public service which it has received. Moreover, in practice, graduation of rates will produce difficulties which are bound to react unfavorably upon the

<sup>12</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), p. 43.

<sup>13</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), p. 40.

TABLE 12

TAXABLE BUSINESS IN THE SEVERAL STATES, INCORPORATED AND UNINCORPORATED, IN THOUSANDS, 1922-1932

State	1922	1923	1924	1925	1926	1927
1	2	3	4	5	6	7
Alabama .....	\$ 98,298	\$ 133,602	\$ 115,342	\$ 141,663	\$ 144,565	\$ 135,238
Arizona .....	31,601	43,831	44,896	45,806	45,694	43,936
Arkansas .....	85,385	103,723	103,434	120,233	112,708	101,998
California .....	655,104	456,923	827,422	876,949	870,923	847,586
Colorado .....	102,582	134,449	135,147	134,015	142,879	133,172
Connecticut ....	168,496	237,032	231,314	238,862	238,124	215,833
Delaware .....	21,615	31,752	30,867	29,077	31,861	30,693
Florida .....	78,011	91,717	110,560	206,788	157,261	109,088
Georgia .....	134,584	182,013	155,634	191,498	188,470	173,157
Idaho .....	38,358	49,199	46,685	51,604	55,393	51,296
Illinois .....	944,567	1,203,864	1,160,203	1,230,595	1,230,130	1,081,454
Indiana .....	258,225	359,259	316,842	337,726	334,977	305,539
Iowa .....	209,746	255,342	237,076	253,074	261,870	238,092
Kansas .....	179,467	198,041	156,752	199,791	206,673	206,755
Kentucky .....	141,812	161,703	182,382	183,808	177,530	167,433
Louisiana .....	122,384	152,260	142,642	165,224	160,490	149,464
Maine .....	69,500	91,642	91,896	86,592	93,831	85,313
Maryland .....	175,924	234,150	232,840	225,152	212,324	206,036
Massachusetts ..	614,459	743,962	680,597	750,211	738,867	669,956
Michigan .....	392,208	611,365	519,897	579,726	576,555	517,154
Minnesota .....	193,899	276,300	240,022	290,295	268,525	251,847
Mississippi .....	78,511	91,761	89,408	101,705	98,429	94,325
Missouri .....	282,273	377,563	362,639	397,079	384,301	357,397
Montana .....	50,052	68,861	69,934	74,213	70,798	70,809
Nebraska .....	133,574	154,939	146,040	155,301	150,361	146,958
Nevada .....	13,073	18,670	18,409	16,851	15,456	15,288
New Hampshire ..	44,258	63,185	55,105	59,635	58,857	56,088
New Jersey .....	455,936	595,599	554,727	558,560	565,767	540,242
New Mexico ....	24,182	30,027	30,473	32,744	34,231	33,933
New York .....	1,859,029	2,321,278	2,439,171	2,503,760	2,519,753	2,471,810
North Carolina ..	136,220	176,389	167,044	173,280	171,091	161,735
North Dakota ..	41,393	48,833	52,435	56,446	59,515	55,049
Ohio .....	576,824	831,700	763,093	848,470	840,795	750,881
Oklahoma .....	163,533	193,570	184,898	212,172	222,424	201,326
Oregon .....	91,034	123,089	120,504	122,019	125,152	126,515
Pennsylvania ...	1,030,434	1,412,631	1,346,285	1,392,341	1,401,572	1,272,742
Rhode Island ....	75,470	95,630	88,895	103,244	100,006	96,636
South Carolina ..	71,837	95,284	86,607	95,434	97,129	92,226
South Dakota ...	50,402	60,535	65,868	72,351	65,103	62,231
Tennessee .....	123,685	166,393	162,786	170,783	165,128	155,778
Texas .....	406,226	523,012	523,264	517,048	529,527	528,575
Utah .....	36,129	55,740	51,987	54,896	50,811	48,075
Vermont .....	33,436	42,581	42,175	41,343	40,402	38,326
Virginia .....	135,428	174,971	174,280	181,945	177,204	169,914
Washington .....	148,576	241,775	246,122	215,435	212,517	210,981
West Virginia ...	115,201	155,477	155,399	140,891	140,539	131,301
Wisconsin .....	254,648	310,673	260,297	353,747	326,615	309,107
Wyoming .....	28,042	41,128	42,814	37,092	36,075	34,450
United States ...	\$11,175,721	\$14,229,363	\$14,063,199	\$15,027,474	\$14,909,508	\$13,953,738

general administration of the law, since it will produce in many cases absurd results which cannot be remedied except by the arbitrary discretionary action of the tax officials.<sup>14</sup>

<sup>14</sup> National Tax Association, *op. cit.*, pp. 45-46.

TABLE 12 (Continued)

State	1928	1929	1930	1931	1932
8	9	10	11	12	13
Alabama .....	\$ 148,438	\$ 155,576	\$ 89,011	\$ 54,077	\$ 32,488
Arizona .....	51,900	56,171	32,775	19,757	11,077
Arkansas .....	116,054	124,811	68,135	40,525	24,801
California .....	946,474	977,134	655,380	394,768	254,327
Colorado .....	147,549	159,390	96,047	59,441	35,688
Connecticut .....	245,697	262,778	163,067	101,788	67,504
Delaware .....	34,677	36,757	23,286	14,355	9,419
Florida .....	104,049	107,495	70,402	47,706	27,654
Georgia .....	191,395	205,704	118,513	71,062	43,826
Idaho .....	55,293	59,738	35,081	19,538	10,717
Illinois .....	1,220,245	1,304,874	778,529	472,149	280,863
Indiana .....	345,641	372,940	220,650	134,298	83,019
Iowa .....	281,253	313,625	189,021	111,164	68,584
Kansas .....	229,741	256,524	148,864	85,517	50,709
Kentucky .....	188,682	203,768	119,816	72,705	44,995
Louisiana .....	165,909	175,155	104,929	63,783	40,398
Maine .....	94,027	105,675	66,528	41,563	24,587
Maryland .....	232,350	245,495	164,370	101,461	64,749
Massachusetts .....	757,706	802,644	488,329	320,487	209,594
Michigan .....	590,505	682,040	363,571	223,415	133,314
Minnesota .....	286,392	310,631	193,361	119,971	74,063
Mississippi .....	104,238	113,626	59,338	35,546	20,781
Missouri .....	399,817	431,623	257,225	159,118	101,209
Montana .....	77,890	80,216	45,200	26,144	15,215
Nebraska .....	166,689	175,728	110,292	64,846	37,109
Nevada .....	16,845	18,428	10,819	7,899	4,360
New Hampshire .....	61,951	67,109	41,795	27,180	17,102
New Jersey .....	599,151	639,241	400,075	260,284	163,932
New Mexico .....	39,237	42,709	25,922	15,074	8,597
New York .....	2,884,551	3,047,145	1,762,357	1,133,064	736,495
North Carolina .....	179,047	187,699	107,468	66,196	39,844
North Dakota .....	62,385	121,680	37,440	22,132	12,842
Ohio .....	848,473	900,410	539,356	322,514	200,141
Oklahoma .....	220,397	236,208	137,260	77,765	49,655
Oregon .....	129,017	137,415	82,887	49,644	31,536
Pennsylvania .....	1,403,417	1,513,959	934,603	574,953	348,647
Rhode Island .....	106,796	116,428	70,041	43,599	26,556
South Carolina .....	102,807	109,193	64,090	38,558	23,050
South Dakota .....	71,648	76,235	45,788	26,639	15,028
Tennessee .....	174,399	187,295	111,757	67,737	40,993
Texas .....	586,773	621,519	359,308	221,911	142,287
Utah .....	54,958	58,327	34,085	20,952	12,516
Vermont .....	43,337	47,026	28,181	16,952	10,187
Virginia .....	189,616	204,181	124,557	76,878	48,581
Washington .....	231,320	251,764	158,121	96,829	56,484
West Virginia .....	144,840	158,294	94,695	57,665	34,904
Wisconsin .....	338,986	359,878	222,818	139,352	79,783
Wyoming .....	39,475	40,013	24,031	15,059	8,791
United States .....	\$15,712,937	\$16,862,184	\$10,079,174	\$6,234,016	\$3,879,901

The foregoing suggestions were considered in determining the business tax rate. An examination of business income taxes used in several states was made. However, in most states the business income tax is levied in addition to other taxes on business, such as licenses. Sometimes these are of minor importance; in other in-

stances they raise considerable tax revenue. A quotation from the Committee earlier in this chapter (page 43) showed that under the Model Tax Plan there would be only one business tax, namely, that on net income.

Martin<sup>15</sup> has furnished information concerning existing corporation income tax rates in twenty-one states as of January 1, 1930, and January 1, 1932. The lowest rate in 1930 was 1 per cent in two states, Missouri and Montana. The highest tax rate was 6 per cent in the case of Wisconsin. Three states had a 4 per cent rate, two a 4½ per cent rate, one a 5 per cent rate, and another a 5½ per cent rate. In 1932 the lowest rate was 1 per cent and the highest rates were 8 per cent in Oregon and 7 per cent in Wisconsin. Five states had a 4 per cent rate, two a 4½ per cent rate, one a 5 per cent rate, and two a 5½ per cent rate. It was decided that a tax rate of 5 per cent would not violate the intentions of the Model Tax Plan.<sup>16</sup>

The data presented in Table 12 represent the amount of taxable business done in each state by both corporate and unincorporated concerns. To obtain the amount of tax revenue from business the figures of Table 12 were multiplied by 5 per cent for the years 1922 to 1929 and by the tax rates shown in Table 3 for the years 1930 to 1932. The tax revenue thus obtained for each year from 1922 to 1932 is shown in Table 27.

#### VALIDITY OF ESTIMATE OF BUSINESS TAX REVENUE

The worth of the data showing the amount of tax revenue which would have accrued to the various states under the business tax depends upon the validity of the method used for distributing the national corporate net income among the states. It is one devised and used by a group of economists<sup>17</sup> who made a comprehensive study of some fifty indices by running correlations, and concluded that the one adopted in the present study was the most valid. This index was, therefore, used in the present investigation. It was not possible to discover practical means for validating statistically the

<sup>15</sup> James W. Martin, *Possibilities of Income Taxes as Sources of State and Local Revenue*, p. 4.

<sup>16</sup> For a discussion of the tax rates used during the three depression years 1930 to 1932, see Chapter II.

<sup>17</sup> Theodore Compton, *Business Taxes*, Fifth Preliminary Report of the Committee on Research submitted to the Governor's Taxation Committee, Columbus, Ohio, 1931.



data showing the amount of business tax revenue as presented in this study. The revenue from the business tax is responsible for 11.62 per cent of the total tax collections of the tax plan used in this study. Approximately 65 per cent of the total amount of tax revenues from business is from corporate concerns. Unincorporated business is responsible for the remainder of the estimates of revenue from the business tax.

The procedure used to determine the amount of unincorporated business was that followed by the Ohio Committee, which has already been explained. This procedure appears justifiable in the light of the following statement from the Model Tax Plan.

In general most individual, partnership, and incorporated concerns actually carrying on business within a state are doing enough intrastate business to make it possible to levy an adequate tax upon their net income.<sup>18</sup>

But today every concern of any considerable size is obliged to make a return of its net income to the Federal Government; . . .<sup>19</sup>

In practice we find that unincorporated business concerns mostly do an intrastate business.<sup>20</sup>

<sup>18</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), p. 43.

<sup>19</sup> *Ibid.*, p. 44.

<sup>20</sup> *Ibid.*, p. 43.

## CHAPTER V

### SUPPLEMENTARY TAXES

IN ADDITION to tangible property, personal income, and business taxes, the Model Tax Plan suggested other sources of tax revenue which an acceptable tax system might well include. Among these supplementary taxes are the inheritance tax, automobile tax, and gasoline tax. Since the repeal of the Eighteenth Amendment, the liquor tax will probably be a part of the state taxing system in states permitting the sale of liquors. Inasmuch as the repeal of this Amendment was effected in 1933, and the present investigation is not extended beyond 1932, the liquor tax is not considered here.

With the exception of the inheritance tax, the supplementary taxes are commonly referred to as indirect taxes. Concerning indirect taxation the Committee said:

It is of course true that constitutional limitations on the taxing power of the states, administrative difficulties which arise when indirect taxes are imposed within small areas, and the economic reaction of an indirect tax levied by one state and not by its neighbors, make it difficult for the states to use indirect taxation as effectively as the Federal Government could do if it saw fit to utilize it. But if the Federal Government neglects this source of revenue, and by heavy levies on incomes and inheritances increases greatly the pressure of direct taxation upon which the states must chiefly rely, it is both inevitable and right that the states should correct the situation so far as may prove practicable by resorting to such indirect taxes as they find they can levy without serious difficulty. . . .

In saying this, we are assuming that increased revenues were needed. . . .<sup>1</sup>

No country has been able to dispense with indirect taxes; and the attempt of the Federal Government to derive its revenues as far as possible from direct taxation has resulted in very high rates of taxation on incomes and inheritances. These greatly intensify the pressure exerted by the direct taxes which the states levy upon property, incomes,

<sup>1</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), p. 62.

and inheritances, and naturally suggest to the states that they relieve this pressure by resorting to various indirect taxes which the Federal Government seems disinclined to use. When they have done this, they have sometimes been told that they are invading a field of taxation which really belongs to the Federal Government.<sup>2</sup>

#### TAX ON MOTOR FUEL

The tax on motor fuel has been extensively used by the states. The following statement from the Model Tax Plan indicates the thinking of the Committee on the subject:

After the states had discovered and developed a new and very productive source of revenue in the gasoline tax, and the Federal Government, attracted by their success, had at length imposed a tax upon this commodity, criticism was heard at Washington that the states were duplicating Federal taxation. We therefore think it pertinent to call attention to the fact that the states, having never made any significant use of indirect taxation during the period when the Federal Government relied upon it, resorted to it only during the last twelve or thirteen years, when the Federal Government has made increasingly clear its intention to derive the greater part of its revenue from direct taxation of incomes and inheritances.<sup>3</sup>

Although the Federal Government has made some use of a tax on the sale of motor fuel, a recent recommendation served to help clarify the seemingly conflicting claims of the state and Federal Government to this source of taxation, and to support the suggestion in the Model Tax Plan. The recommendation was:

Since congress has declared that the federal tax on gasoline was levied only as a temporary expedient on account of the emergency, the Commission urges the federal government to relinquish this source of revenue for the exclusive use of the states. . . .<sup>4</sup>

In order to determine the amount of tax revenue which each state would have received from a defensible tax on motor fuel, it is necessary to know (1) the number of gallons of motor fuel sold in the states, and (2) an equitable tax rate to apply to the gallonage sold. Data concerning the number of gallons of gasoline consumed in the states are, in most cases, furnished by the United States

<sup>2</sup> *Ibid.*, pp. 61-62.

<sup>3</sup> *Ibid.*, pp. 61-62.

<sup>4</sup> *Report of the Interstate Commission on Conflicting Taxation to the Second Interstate Assembly*, Presented by Senator Seabury C. Mastick, Chairman (Issued by the American Legislator's Association), p. 6.

TABLE 13  
GALLONS OF MOTOR FUEL SOLD IN THE STATES, IN THOUSANDS, 1922-1932

State	1922		1923	1924	1925	1926
	Net Gallons Tax Revenue					
1	2	3	4	5	6	7
Alabama .....	54,433*	\$566	75,060*	86,933	107,040	127,933
Arizona .....	15,787	164	20,007*	24,361	28,532	32,609
Arkansas .....	20,797	216	51,722*	69,213	73,759	89,633
California .....	380,297*	3,955	524,407*	599,661	747,839	825,106
Colorado .....	64,486	671	68,284*	86,298	97,378	104,587
Connecticut .....	68,925	717	88,022	97,828	122,230	134,469
Delaware .....	8,698*	90	11,994*	15,220	17,104	19,521
Florida .....	69,322	721	147,485*	121,956	210,323	285,787
Georgia .....	73,919	769	97,332*	150,916	138,802	161,518
Idaho .....	15,667*	163	21,604*	27,284	30,809	37,404
Illinois .....	269,791*	2,806	372,026*	460,382*	530,534†	650,000†
Indiana .....	138,818*	1,444	191,422*	246,269	272,981	299,058
Iowa .....	115,463*	1,201	159,216*	197,029*	227,052†	242,121
Kansas .....	100,776*	1,048	138,964*	171,967*	198,172†	215,169
Kentucky .....	44,755	465	68,044	87,979*	101,385	103,478
Louisiana .....	48,439	504	75,444	101,476*	116,939	135,428
Maine .....	28,739*	299	39,620*	52,225	56,514	60,091
Maryland .....	50,269*	523	68,830	79,421	98,852	114,693
Massachusetts .....	139,649*	1,452	192,568*	238,303*	274,615†	280,000†
Michigan .....	219,511*	2,283	302,693*	374,582*	431,660†	504,089
Minnesota .....	130,881*	1,361	180,478*	223,341*	257,373†	240,234
Mississippi .....	42,280*	440	46,786	72,149*	83,142	105,887
Missouri .....	105,751*	1,100	145,825*	180,458*	207,955	283,057
Montana .....	24,391	254	23,656*	30,965	33,735	43,536
Nebraska .....	69,292*	721	95,550*	118,243*	136,261†	151,996
Nevada .....	4,501*	47	6,206*	8,130	8,850	10,145
New Hampshire .....	17,978*	187	24,791*	29,392	35,354	38,429
New Jersey .....	126,948*	1,320	175,054*	216,629*	249,638†	255,000†
New Mexico .....	18,309	190	16,500	19,498	20,491	25,428†
New York .....	363,728*	3,783	501,559*	620,678*	715,257†	720,000
North Carolina .....	77,850	810	113,158*	150,968	161,372	194,662
North Dakota .....	33,025*	343	46,108	44,297	64,942	73,689
Ohio .....	279,720*	2,909	385,717*	477,324*	550,058†	662,863
Oklahoma .....	89,884*	935	123,045*	153,381*	176,753	207,080
Oregon .....	49,312*	513	67,998*	89,959	96,970	118,494
Pennsylvania .....	210,579*	2,190	290,376*	454,477	414,096	588,379
Rhode Island .....	18,008*	187	24,832*	30,730*	35,413†	51,190
South Carolina .....	42,697*	444	58,877*	72,871	83,963	89,939
South Dakota .....	48,900	509	44,896*	60,258	64,025	64,159
Tennessee .....	62,041*	645	85,550*	90,612	122,001	128,417
Texas .....	236,047*	2,455	325,496*	389,277	464,178	522,689
Utah .....	16,383*	170	22,592*	27,374	32,277	35,943
Vermont .....	13,154*	137	18,136*	23,086	25,863	27,655
Virginia .....	62,751*	653	85,531*	110,440	123,398	135,814
Washington .....	95,383	992	122,515	131,771	151,041	174,105
West Virginia .....	38,817*	404	53,526*	61,597	76,332	83,505
Wisconsin .....	127,343*	1,324	175,598*	217,302*	250,415†	260,490
Wyoming .....	10,550*	110	14,548*	20,032	20,746	22,744
United States .....	4,345,042	\$45,190	5,990,557	7,414,542	8,544,359	9,738,223

\* Number of gallons estimated for purposes of the present study. For complete discussion of procedure and its validation, see the discussion in the text.

† Either partly or entirely estimated by the United States Bureau of Public Roads. That is, some states had a gasoline tax during a part of the year. Other states had no tax throughout the entire year. In such cases the Bureau estimated the number of gallons sold during the time there was no tax. A detailed explanation in which all gallons are in thousands is as follows: Illinois 1925 to 1928 estimated;

TABLE 13 (Continued)

State	1927	1929	1930	1931	1932
8	9	10	11	12	13
Alabama .....	149,621	178,163	172,537	162,671	136,422
Arizona .....	40,217	63,996	66,750	64,702	58,004
Arkansas .....	94,346	133,621	128,545	110,579	86,083
California .....	928,748	1,139,736	1,162,338	1,328,788	1,204,295
Colorado .....	122,493	141,467	153,621	156,358	136,730
Connecticut .....	152,744	202,355	223,297	236,400	234,229
Delaware .....	23,487	31,198	33,779	35,735	36,338
Florida .....	251,410	223,373	217,037	235,057	207,268
Georgia .....	192,103	219,609	223,185	221,892	198,980
Idaho .....	40,877	48,659	54,423	51,967	45,555
Illinois .....	743,941†	932,782†	915,747	968,856	958,468
Indiana .....	337,769	410,937	428,969	450,864	418,489
Iowa .....	288,620	311,859	352,802	364,253	299,005
Kansas .....	229,733	288,717	304,016	269,029	247,350
Kentucky .....	118,268	154,718	168,295	176,203	164,058
Louisiana .....	151,703	176,646	184,782	187,956	166,014
Maine .....	72,007	91,610	102,737	109,568	105,168
Maryland .....	118,335	157,429	174,780	185,775	187,506
Massachusetts .....	310,000†	487,941	528,147	558,556	550,643
Michigan .....	561,145	710,300	722,463	727,745	681,044
Minnesota .....	258,744	338,632	345,304	369,005	333,352
Mississippi .....	119,343	140,902	135,824	115,640	96,732
Missouri .....	316,549	384,034	431,958	460,328	447,485
Montana .....	47,880	57,514	58,838	60,363	53,803
Nebraska .....	183,246	208,869	226,511	227,406	195,237
Nevada .....	11,791	16,308	16,875	19,448	18,178
New Hampshire .....	44,898	56,676	62,487	66,429	65,971
New Jersey .....	408,286†	498,064	546,685	570,821	553,914
New Mexico .....	30,117	45,479	54,386	53,294	43,845
New York .....	920,000†	962,601	1,438,583	1,527,203	1,485,128
North Carolina .....	219,667	260,210	250,669	249,609	231,727
North Dakota .....	63,778	71,592	65,643	67,675	61,190
Ohio .....	752,028	910,155	927,036	983,201	856,729
Oklahoma .....	239,932	314,388	302,310	252,483	241,527
Oregon .....	122,823	152,091	154,986	155,063	140,066
Pennsylvania .....	691,561	1,047,914	928,843	1,081,756	1,009,664
Rhode Island .....	56,145	77,827	86,613	94,632	92,701
South Carolina .....	101,608	118,038	119,072	120,766	103,749
South Dakota .....	65,965	88,644	87,597	84,867	74,084
Tennessee .....	149,206	194,497	214,384	206,707	174,077
Texas .....	594,592	761,422	738,177	762,864	676,594
Utah .....	41,774	56,547	60,138	60,363	54,298
Vermont .....	33,167	43,991	46,998	49,164	46,866
Virginia .....	158,424	197,899	215,501	228,904	216,192
Washington .....	191,072	233,334	241,775	244,530	220,930
West Virginia .....	99,918	121,655	133,966	134,680	123,545
Wisconsin .....	301,356	374,252	415,742	431,505	373,711
Wyoming .....	25,884	34,243	36,175	39,675	35,454
United States .....	11,177,321	13,872,894	14,671,326	15,321,335	14,148,398

Illinois 1929—388,659 gallons taxed and 544,123 estimated; Iowa 1925—175,256 gallons taxed and 51,796 estimated; Kansas 1925—145,260 gallons taxed and 52,912 estimated; Massachusetts 1925 to 1927 estimated; Michigan 1925—411,804 gallons taxed and 19,856 estimated; Minnesota 1925—199,464 gallons taxed and 57,909 estimated; Nebraska 1925—100,690 gallons taxed and 26,571 estimated; New Jersey 1925 to 1927 estimated; New Mexico 1925 to 1927 estimated; Ohio 1925—450,498 gallons taxed and 99,560 estimated; Rhode Island 1925—31,836 gallons taxed and 3,577 estimated; Wisconsin 1925—201,584 gallons taxed and 48,831 estimated.

Department of the Interior, Bureau of Public Roads. During most of the years, the Bureau also gives the weighted average gasoline tax rate for the United States as a whole, by years. This latter rate represents the combined practice of the forty-eight states and is perhaps the most defensible measure available.

The data in Table 13 show the number of gallons of gasoline consumed in motor vehicles during the period 1922-1932. The tax revenue possibilities of the several states by the use of a uniform gasoline tax in 1922 also are shown to illustrate the procedure used. The tax revenue for 1922 (column 3) was determined by multiplying the net gallons of motor fuel sold in 1922 (column 2) by the weighted average gasoline tax of 1.04 cents per gallon. The amount of such tax revenue for other years is shown in Table 27, page 112. The weighted average gasoline tax for the different years is as follows: 1922, 1.04 cents per gallon; 1923, 1.62 cents; 1924, 2.07 cents; 1925, 2.26 cents; 1926, 2.38 cents; 1927, 2.76 cents; 1928, average of 1927 and 1929; 1929, 3.22 cents; 1930, 3.35 cents; 1931, 3.48 cents; and 1932, 3.60 cents. During at least part of several years between 1922 and 1932 certain states did not have a gasoline tax. The data concerning the number of gallons of motor fuel consumed, therefore, show (1) the number of gallons of motor fuel taxed, and (2) the number of gallons sold during the time the particular state had no tax on motor fuel. In the latter case the tax revenue is obtained by adding the two amounts and multiplying the sum by the weighted average gasoline tax.

The information representing the number of gallons of gasoline sold during the time the states levied a tax was obtained from the United States Bureau of Public Roads. In most cases the Bureau has made estimates of the number of gallons of gasoline used in motor vehicles during the time the states had no gasoline tax. However, it made no estimates in some cases, and it was necessary for purposes of this study to make such estimates.

The procedure used in doing this is as follows: In 1922 fourteen states had a tax on motor fuel during the entire year and at a constant tax rate. According to the procedure used to determine the number of gallons of motor fuel sold in the states which had no tax on such sales in 1922, an examination was made of such sales in these states in 1925, the first year in which relatively complete data are furnished by the Bureau of Public Roads. Column 5 of Table 14 shows the number of gallons of motor fuel sold in 1925 by the

fourteen states which had a tax on the sale of motor fuel at a constant tax rate during 1922. Column 9 shows the relationship between the total gallonage sold by the specified fourteen states in 1925 and each of the remaining thirty-four states which did not have a tax on motor fuel at a constant rate in 1922; that is, the index for any given state is obtained by dividing the number of gallons of motor fuel sold in the particular state in 1925 (see column 8) by the total number of gallons of motor fuel sold in the specified fourteen states in 1925 (see the total at the bottom of column 5). The index thus derived, as shown in column 9, was multiplied by the total number of gallons of motor fuel sold in the specified fourteen states in 1922 in order to determine the number of gallons of motor fuel sold in each of the remaining thirty-four states in 1922. The footnotes to Table 14 give further explanation of the procedure. The same procedure was used for 1923 and 1924, except that the number of states changed.

The basic assumption upon which the foregoing procedure rests is that the relationship between the number of gallons of motor fuel sold in the specified fourteen states and each of the remaining states in 1925 is the same as it was in 1922. When such large geographic areas as the states are considered and when the economic conditions within the various states are so intimately related, such an assumption seems tenable. However, the assumption was tested by such methods as were available, as will be explained presently.

In order to test the accuracy of the foregoing procedure, the technique was applied to the data for 1929. By comparing the estimates thus derived for 1929 to the basic data for that year it was discovered that the error in the estimate for any given state was of such size that it would not influence the results obtained in this study by as much as 1 per cent.

#### MOTOR VEHICLE REGISTRATION FEE

The automobile registration fee has been used extensively by the various states. It is generally accepted by tax experts. It has not been confined to periods of economic depression or of prosperity.

For purposes of the present investigation, the procedure used to determine the amount of tax revenue which would have accrued to the several states provided they had a uniform automobile registration law is divided into two major parts, for two reasons: the nature of available data and the form of the accepted registration

TABLE 14  
METHOD OF DETERMINING NUMBER OF GALLONS OF MOTOR FUEL SOLD DURING 1922, 1923, AND 1924, IN THOUSANDS

State	Gallons Sold in 1925 by States Which Had a Gasoline Tax in Specified Years											Index
	1922	1923	1924	1922	1923	1924	1925	1922	1923	1924	1925	
I	2	3	4	5	6	7	8	9	10	11		
Alabama	54,433	75,060	86,932*	..	..	107,040	107,040	8,1000	14,1024	..	..	..
Arizona	15,797*	20,007	24,301*	28,532	..	28,532	28,532	..	3,7500	..	..	..
Arkansas	20,707*	51,722	60,211*	73,759	..	73,759	73,759	..	0,7176	..	..	..
California	380,207	524,407	599,661*	..	..	747,830	747,830	36,6540	98,3267	..	..	..
Colorado	64,486*	68,284	86,208*	97,378	..	97,378	97,378	..	12,8204	..	..	..
Connecticut	68,925*	88,022*	97,828*	122,230	122,230	122,230	122,230	..	..	..	..	..
Delaware	8,668	11,994	15,220*	..	..	17,104	17,104	1,2937	2,3534	..	..	..
Florida	69,322*	147,485	121,956*	210,323	..	210,323	210,323	..	27,7007	..	..	..
Georgia	73,919*	97,332	150,916*	138,802	..	138,802	138,802	..	18,2870	..	..	..
Idaho	15,667	21,604	27,284*	..	..	30,809	30,809	2,3340	4,0590	..	..	..
Illinois	269,791	372,027	460,382	..	..	..	530,534	40,1916	69,8971	13,2576	..	..
Indiana	138,819	191,422	246,269*	..	..	272,081	272,081	20,6802	35,9648	..	..	..
Iowa	115,463	150,216	197,028	..	..	..	227,052	17,2008	29,9138	5,6738	..	..
Kansas	100,775	138,965	171,966	..	..	..	198,171	15,0128	26,1087	4,9521	..	..
Kentucky	44,755*	68,044*	87,978	101,385	101,385	..	101,385	..	..	2,5335	..	..
Louisiana	48,439*	75,444*	101,476	116,939	116,939	..	116,939	..	..	2,9222	..	..
Maine	28,739	39,659	52,225*	..	..	56,514	56,514	4,2813	7,4456	..	..	..
Maryland	68,830*	79,421*	..	..	..	98,852	98,852	7,4887	..	..	..	..
Massachusetts	139,650	192,568	238,303	..	..	274,615	274,615	20,8040	36,1801	6,8624	..	..
Michigan	219,511	302,603	374,581	..	..	..	431,660	32,7012	56,8706	10,7868	..	..
Minnesota	130,882	180,478	223,340	..	..	..	257,373	19,4978	33,9085	6,4315	..	..
Mississippi	42,280	46,786*	72,147	..	..	..	83,142	6,2986	..	2,0776	..	..
Missouri	105,751	145,825	180,457	..	..	..	207,955	15,7540	27,3078	5,1066	..	..
Montana	24,391*	23,656	30,965*	33,735	..	..	33,735	..	4,4445	..	..	..
Nebraska	69,292	95,550	118,242	..	..	33,735	136,201	..	17,9522	3,4050	..	..
Nevada	4,500	6,206	8,132*	..	..	8,850	8,850	..	1,6660	..	..	..
New Hampshire	17,978	24,791	29,392*	..	..	35,354	35,354	2,6783	4,6578	..	..	..



# Supplementary Taxes

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New Jersey	175,054	216,627	20,491	20,491	240,638	18,918	32,880	6,238
New Mexico	16,309*	19,498*	20,491	20,491	20,491	..	..	..
New York	501,500	620,680	..	..	715,257	54,183	94,240	17,873
North Carolina	113,159	150,968*	161,372	..	161,372	..	21,205	..
North Dakota	46,108*	44,297*	..	64,942	64,942	4,910	72,403	13,745
Ohio	33,025	477,325	..	..	550,058	41,670	13,300	4,416
Oklahoma	279,720	85,717	..	..	176,753	13,300	23,286	..
Oregon	80,884	153,381	..	..	96,970	7,340	12,775	..
Pennsylvania	67,999	39,959*	..	..	414,096	31,376	54,565	..
Rhode Island	210,579	454,477*	..	..	35,412	2,687	4,665	..
South Carolina	24,832	30,729	..	..	83,963	6,368	11,020	..
South Dakota	58,877	72,871*	..	..	64,025	..	8,432	..
Tennessee	44,890	60,258*	64,025	..	122,001	9,244	16,073	..
Texas	85,551	90,612*	..	..	464,178	35,167	61,154	..
Utah	325,495	389,277*	..	..	32,217	2,440	4,445	..
Vermont	22,591	27,374*	..	..	25,863	1,950	3,407	..
Virginia	18,136	23,086*	..	..	123,398	9,348	16,255	..
Washington	62,751	110,440*	..	..	151,041	..	..	..
West Virginia	122,515*	131,771*	151,041	..	76,332	5,787	10,956	..
Wisconsin	53,526	61,597*	..	..	250,415	18,970	32,918	6,257
Wyoming	127,343	217,304	..	..	20,746	1,571	2,733	..
United States	14,548	20,032*	..	..	8,544,357	..	..	..
	532,240†	3,472,580†	1,320,012	759,022	4,001,737	..	..	..

\* These data are for states which had a uniform motor fuel tax throughout the given year. They are taken from various issues of *Public Roads*, United States Bureau of Public Roads.

† Total of data marked \* and, therefore, the base upon which estimates were made for states which did not have a uniform tax on motor fuel throughout the year. The data in columns 5, 6, 7, and 8 are taken from *Public Roads*. Column 5 shows the number of gallons of motor fuel (in thousands) sold during 1935 in the 13 states which had a uniform tax on motor fuel in 1932. Column 6 shows similar data for 1933; and column 7 for 1934.

Column 9 is obtained by dividing the number of gallons of motor fuel sold in the specified states in 1935 by the total number of gallons sold in the 13 states which had a gasoline tax in 1932, that is, to find the data shown for Alabama in column 9, divide the number of gallons of motor fuel sold by Alabama in 1935—see column 8—by the total at the bottom of column 5.

Column 10 is obtained by a procedure similar to that used to obtain column 9, except that the data in column 6 are used instead of those in column 5.

Column 11 is found by the same procedure, except that the data in column 7 are used instead of those in column 5 or 6. The estimated number of gallons of motor fuel sold during 1932, 1933, and 1934 in the states which had no tax on motor fuel was obtained by multiplying the total number of gallons of motor fuel sold in the states which had a tax by the index for the particular state as shown in columns 9, 10, and 11. That is, to find the number of gallons of motor fuel sold in Alabama in 1932, multiply the total at the bottom of column 2 by 8,100, the index for Alabama as shown in column 9. One exception was made to the foregoing procedure, namely, the data in Florida in 1933 as shown in column 3 are the average for Florida in 1932 and 1934. This exception seemed advisable because of the unusual condition in Florida in 1933.

law, in which passenger cars and motor trucks are considered separately. Later, the amounts of registration fees from these two sources will be combined to obtain the total amount of motor vehicle registration fees which would have accrued to the various states.

The procedure used to determine the amount of registration fees which the states would have collected from a uniform passenger car registration law was based on available data and advice, verbal and written, of those who are closely associated with the automobile industry. First, the United States Bureau of Public Roads furnishes complete data concerning the total number of passenger cars registered each year in the various states, except for the year 1922, when *Public Roads* was not printed. However, the *Statistical Abstract of the United States*, published by the United States Department of Commerce, furnishes the information for that year. Second, the registration of new passenger cars by states is available for each year beginning with 1926.<sup>5</sup>

After advising with those closely associated with the automobile industry, it was decided to classify passenger cars for purposes of determining the registration fees. It did not seem defensible to charge the owner of a Ford or a Chevrolet the same registration fee as the owner of a Lincoln or other higher priced car, and the practice of the various states supports this decision. The following classifications were used: All cars with a retail sale value, when new, of \$950 or less were put into Group 1; those with a retail sale value, when new, of from \$950 up to \$2,000, in Group 2; and those with a retail sale value of \$2,000 and over, when new, in Group 3.

The total automobile registration, as furnished by the United States Bureau of Public Roads, does not specify the types or prices of passenger cars. A technique had to be devised, therefore, to determine what portion of the total registration belongs in the various registration groups or classifications. The registration of new passenger cars by states seemed to be the best approach, since the various makes of new cars registered are known for given years. Thus, the new cars registered in the several states can be listed according to the three registration groups or classifications, and indices calculated to show the per cent of new cars registered in each of the three groups. It seems reasonable to assume that indices thus determined would be a reasonably accurate indication of the

<sup>5</sup> *Automotive Topics: Trade Authority*, 1790 Broadway, New York.

types of passenger cars registered in each state. The new car registration was determined for each state for a period of six years, since experts estimate that the average life of an automobile is six years. Therefore, indices based on the registration of new passenger cars by states for six years would seem to provide a reliable indication of the total passenger car registration for the three given registration classifications.

Some modification of the technique just suggested was necessary inasmuch as new passenger car registration data prior to 1926 are not obtainable. Accordingly, indices based on new passenger car registration by states for the years 1926 to 1930 were used as a basis for classifying passenger cars in the various states for the years 1922 to 1930. The indices for 1931 were based on new passenger car registration in the various states during the six-year period 1926-1931, and indices for 1932 were based on new passenger car registration by states for the six-year period 1927-1932.

To summarize the foregoing procedure briefly, two types of data were used: (1) total number of passenger cars registered in the various states each year, and (2) total number of new passenger cars of the various makes registered in the several states during years when these data are available. The purpose of the latter data is to afford indices by which it is possible to classify the total number of passenger cars registered into three classifications.

The procedure used to calculate the foregoing indices was to group all new passenger cars registered in each state according to the three groups or classifications previously mentioned. Opposite the names of the states were three columns headed Group 1, Group 2, and Group 3, respectively. The number of new cars registered in each state during the years 1926 to 1930 were classified in these three columns. In a fourth column the total number of new cars was shown. In three additional columns, that is, columns 5, 6, and 7, indices were placed. These indices showed the proportion of the total number of new cars registered in the states which belonged in each of the three groups or classifications. The indices were obtained for each state by dividing the number of cars in each of the three groups by the total number of new cars registered.

The same procedure was used to determine the number of trucks registered in the various groups, except that trucks were classified according to tonnage capacity, and five classifications were used. Group 1 consisted of trucks with a capacity of less than 1 ton;

group 2, 1 to  $1\frac{3}{4}$  tons; group 3, 2 to  $2\frac{3}{4}$  tons; group 4, 3 to  $4\frac{3}{4}$  tons; and group 5, 5 tons or more.

Data which show the number of new trucks registered in the various states according to tonnage capacity were obtainable for each year beginning with 1927.<sup>6</sup> After classifying the new trucks registered by states according to the five groups, indices were calculated similar to those for new passenger car registration. The indices were multiplied by the total number of trucks registered in each state during the years included in the present study. Those in direct contact with the truck industry estimated that the average life of a truck was seven years. The data upon which the truck indices were based were obtainable for the years 1927 to 1932. The data for these six years were used in determining one set of indices, which was used for all years 1922 to 1932.

The next step was to determine the registration fee for each group of automobiles and each group of trucks. The Bureau of Public Roads furnishes data as to the automobile and truck registration fees collected in most states. This information was used to determine the average passenger car registration fee and the average truck registration fee for each year in the United States as a whole. In the case of the passenger automobiles the procedure was as follows: First, the total amount of license fees collected during each year in the states for which data were available was divided by the total number of automobiles registered in those same states. (The results are shown in Table 15.) This gave the average license fee for each year and for the ten-year period. Second, the average license fee thus obtained as representative of the country as a whole during the years 1923-1932, inclusive, was used as a fulcrum in determining the registration fees for each of the three groups, that is, the number of automobile registrations in the three groups for the forty-eight states was studied in comparison to this average license fee; and the registration fees were determined for the three groups of automobiles in such a way that the proposed fees, when compared to the number of cars registered in the three groups, balanced on the foregoing average license fee.

By use of the foregoing procedure, the following license fees were determined: \$9.25, \$12.25, and \$16.89. The last fee was then placed at the nearest multiple of 25 cents or \$17.00.

<sup>6</sup> These data were furnished through the courtesy of R. L. Polk & Company, 354-360 Fourth Avenue, New York, N. Y.

TABLE 15  
AVERAGE PASSENGER CAR LICENSE FEE IN THE VARIOUS STATES, UNDER EXISTING  
REGISTRATION LAWS

Year	Number of States Studied	Number Registered	Registration Fees Collected	Average Fee
1	2	3	4	5
1922 .....	*	*	*	*
1923 .....	29	8,671,635	\$ 91,031,927	\$10.50
1924 .....	29	9,107,145	93,269,171	10.24
1925 .....	33	12,127,730	123,190,689	10.16
1926 .....	32	13,018,262	133,485,837	10.25
1927 .....	34	15,540,446	167,001,330	10.75
1928 .....	35	17,826,004	184,309,650	10.34
1929 .....	33	17,800,385	189,364,109	10.64
1930 .....	34	17,770,240	189,571,361	10.67
1931 .....	39	19,187,612	196,696,502	10.25
1932 .....	38	18,388,150	189,945,282	10.33
Total .....		149,437,609	\$1,557,865,858	\$10.42

\* Sufficient data not obtainable for 1922.

Source of data: Columns 3 and 4 are taken from *Public Roads*, United States Bureau of Public Roads. Column 5 is obtained by dividing column 4 by column 3.

Although the registration fees were more or less arbitrarily determined, it can readily be seen that the registration fee for each group could not have been much different from the rates thus determined, without throwing the fees considerably out of proportion. In other words, if the fee for group 1 had been 50 cents less, the fee for group 2, according to the procedure adopted, necessarily would have been increased \$1.11, or the fee for group 1 would have been \$8.75 and that for group 2, \$13.36.

The same license fees were used throughout the eleven-year period. In no year did the average license fee under existing laws vary more than 33 cents from that for the eleven-year period. (See Table 15.)

The same procedure was used for trucks as for passenger cars, except that five classified registration fees were used for trucks, instead of three as in the case of passenger cars. The total amount of truck fees collected during the years under consideration in the states for which data were available was divided by the total registration in those states. (See Table 16.) The quotient for each year represents the average truck fee, and it was used as a fulcrum around which the classified registration fees were located. The motor truck fees thus determined for the five tonnage-capacity

groups were: \$13.00, \$22.50, \$32.00, \$48.00, and \$83.25, respectively.

The justification for the use of one set of truck registration fees for the eleven years is similar to that for passenger cars. The average registration fee for the various years under existing registration laws, as shown in Table 16, did not vary by more than \$1.18 from that for the eleven-year period; and this amount, when distributed among the five registration fees previously mentioned, would have meant only minor changes in fees.

TABLE 16  
AVERAGE MOTOR TRUCK REGISTRATION FEE IN THE VARIOUS STATES, UNDER  
EXISTING REGISTRATION LAWS

Year	Number of States Studied	Number Registered	Registration Fees Collected	Average Fee
1	2	3	4	5
1922 .....	*	*	*	*
1923 .....	29	1,103,076	\$ 24,020,785	\$21.78
1924 .....	29	1,384,620	29,211,455	21.10
1925 .....	33	1,827,018	38,272,282	20.95
1926 .....	32	1,983,579	43,249,763	21.80
1927 .....	34	2,271,985	50,835,698	22.38
1928 .....	35	2,627,863	59,022,332	22.46
1929 .....	33	2,624,204	56,932,893	21.70
1930 .....	34	2,727,988	62,316,823	22.84
1931 .....	37	2,985,594	67,059,312	22.46
1932 .....	38	2,828,540	63,994,515	22.62
Total .....		22,364,467	\$494,915,858	\$22.13

\* Sufficient data not obtainable for 1922.

Source of data: Columns 3 and 4 are taken from *Public Roads*, United States Bureau of Public Roads. Column 5 is obtained by dividing column 4 by column 3.

The next step was to multiply the number of passenger cars registered in the three groups in each state for each year by the license fee, as previously determined, and then to add the fees obtained in each group for each state to get the total automobile registration fees which were collectible by each state under a uniform automobile registration law during each of the several years.

Likewise, in order to obtain the amount of registration fees which a given state would have collected under a uniform truck registration law, the rates previously determined were multiplied by the number of trucks registered in each group in each state during each of the several years. By adding the fees thus obtained for each group of trucks in each state, the total which each state could have collected each year was obtained.

The registration fees from automobiles and from trucks, as thus determined for the various years, were added to get the total amount of such fees for each state during each of the years from 1922 to 1932. The sums are shown in Table 17.

The validity of the information showing the amount of tax revenue which each state would have collected from the motor vehicle registration fee rests on the character of the data used in the estimates. First, basic data as to (1) the total number of motor cars and motor trucks registered in the states, and (2) the average motor car registration fee and the average motor truck registration fee were furnished by the United States Bureau of Public Roads. Second, basic data concerning the registration of new motor cars and the sale of new trucks of the various tonnage capacities were compiled by R. L. Polk and Company, who have long made reliable compilations of these data.

The validity of the data for interstate comparisons for registration fees depends upon the soundness of the assumptions lying back of the calculations which determined the amounts of these fees. These calculations assume that the indices of new car registrations furnish a reliable indication of the distribution of total registration among the various types of cars. This appears to be a sound assumption, since the new motor vehicles registered or sold soon become the old ones, and would seem in a few years to provide a reliable basis upon which to classify total registration. The possible exception is caused by cars being moved from one state to another. This, however, would probably affect only a small percentage of motor vehicles registered in any given state. Also, it is quite probable that the forces which operated to determine the type of new cars and trucks registered or bought would, for the most part, govern the type of old cars or trucks brought into or taken away from the given state.

#### THE INHERITANCE TAX

Two important developments have taken place within the last decade which serve to make the inheritance tax a defensible part of a state's tax program. These are pointed out in the following statement by the Committee on the National Tax Association which prepared the Model Tax Plan:

Limitations of time and resources would have prevented our Committee in any case from giving attention to the subject of inheritance taxa-

TABLE 17  
TAX REVENUE FROM THE MOTOR VEHICLE REGISTRATION FEES,  
IN THOUSANDS OF DOLLARS, 1922-1932

State	1922			1923			1924		
	Passenger Cars	Trucks	Total	Passenger Cars	Trucks	Total	Passenger Cars	Trucks	Total
1	2	3	4	5	6	7	8	9	10
Alabama .....	\$ 797	\$ 196	\$ 993	\$ 1,089	\$ 274	\$ 1,363	\$ 1,350	\$ 371	\$ 1,721
Arizona .....	343	103	446	440	131	571	524	152	676
Arkansas .....	757	164	921	1,006	234	1,240	1,237	345	1,582
California .....	8,891	854	9,745	11,425	943	12,368	12,166	4,204	16,370
Colorado .....	1,563	229	1,792	1,813	280	2,093	2,037	335	2,372
Connecticut ....	1,402	606	2,008	1,641	681	2,322	1,992	790	2,782
Delaware .....	212	101	313	258	123	381	304	142	446
Florida .....	1,011	378	1,389	1,305	462	1,767	1,643	671	2,314
Georgia .....	1,272	347	1,619	1,522	461	1,983	1,823	539	2,362
Idaho .....	500	96	596	579	111	690	624	164	788
Illinois .....	7,281	2,401	9,682	9,039	2,946	11,985	10,442	3,391	13,833
Indiana .....	4,240	1,178	5,418	5,232	1,526	6,758	5,812	1,771	7,583
Iowa .....	4,676	690	5,366	5,335	796	6,131	5,738	868	6,606
Kansas .....	3,044	491	3,535	3,498	555	4,053	3,718	835	4,553
Kentucky .....	1,374	360	1,734	1,789	426	2,215	2,073	482	2,555
Louisiana .....	878	304	1,182	1,170	411	1,581	1,522	540	2,062
Maine .....	830	293	1,123	951	331	1,282	1,108	403	1,511
Maryland .....	1,590	278	1,868	1,589	272	1,861	1,907	262	2,169
Massachusetts ..	3,532	1,469	5,001	4,426	1,802	6,228	5,287	2,050	7,337
Michigan .....	5,362	1,262	6,624	6,801	1,513	8,314	8,115	1,754	9,869
Minnesota .....	3,455	824	4,279	4,043	1,024	5,067	4,708	794	5,502
Mississippi .....	695	136	831	919	215	1,134	1,195	259	1,454
Missouri .....	3,583	816	4,399	4,369	953	5,322	4,968	1,054	6,022
Montana .....	574	145	719	675	174	849	720	205	925
Nebraska .....	2,338	493	2,831	2,595	571	3,166	2,776	670	3,446
Nevada .....	114	32	146	148	41	189	175	39	214
New Hampshire ..	446	131	577	555	149	704	671	155	826
New Jersey .....	2,947	1,761	4,708	3,637	2,106	5,743	4,333	2,346	6,679
New Mexico ....	233	49	282	293	62	355	402	37	439
New York .....	8,990	4,758	13,748	10,600	5,218	15,818	12,516	6,042	18,558
North Carolina ..	1,635	387	2,022	2,253	436	2,689	2,724	561	3,285
North Dakota ..	956	64	1,020	1,054	71	1,125	1,121	101	1,222
Ohio .....	7,728	2,556	10,284	9,671	3,079	12,750	11,232	3,575	14,807
Oklahoma .....	2,368	321	2,689	2,911	395	3,306	3,461	575	4,036
Oregon .....	1,224	338	1,562	1,569	283	1,852	1,832	328	2,160
Pennsylvania ...	8,170	1,483	9,653	10,367	1,676	12,043	11,162	4,013	15,175
Rhode Island ...	583	301	884	663	328	991	839	407	1,246
South Carolina ..	865	151	1,016	1,139	243	1,382	1,441	377	1,758
South Dakota ..	1,129	201	1,330	1,178	233	1,411	1,276	247	1,523
Tennessee .....	1,214	344	1,558	1,569	402	1,971	1,872	436	2,308
Texas .....	4,882	847	5,729	6,385	1,108	7,493	7,402	1,285	8,687
Utah .....	434	145	579	534	150	693	615	178	793
Vermont .....	435	56	491	521	71	592	602	87	689
Virginia .....	1,453	489	1,942	1,884	658	2,542	2,205	886	3,091
Washington ....	1,863	733	2,596	2,277	851	3,128	2,620	953	3,573
West Virginia ..	1,106	107	1,213	1,475	157	1,632	1,684	466	2,150
Wisconsin .....	3,671	565	4,236	4,357	739	5,096	4,898	1,070	5,968
Wyoming .....	286	66	352	368	93	461	405	99	504
United States ...	\$112,932	\$30,099	\$143,031	\$138,917	\$35,773	\$174,690	\$159,277	\$47,284	\$206,561



TABLE 17 (Continued)

State	1925			1926			1927		
	Passenger Cars	Trucks	Total	Passenger Cars	Trucks	Total	Passenger Cars	Trucks	Total
11	12	13	14	15	16	17	18	19	20
Alabama .....	\$ 1,704	\$ 460	\$ 2,164	\$ 1,968	\$ 554	\$ 2,522	\$ 2,104	\$ 633	\$ 2,737
Arizona .....	624	165	789	661	208	869	833	25	858
Arkansas .....	1,574	499	2,073	1,771	621	2,392	1,722	665	2,387
California .....	13,252	4,653	17,905	14,964	4,587	19,551	15,994	4,632	20,626
Colorado .....	2,286	392	2,678	2,350	441	2,791	2,530	494	3,024
Connecticut ....	2,355	869	3,224	2,452	957	3,409	2,631	1,005	3,636
Delaware .....	340	177	517	379	200	579	308	212	610
Florida .....	2,476	981	3,457	3,461	1,368	4,829	3,472	1,213	4,685
Georgia .....	2,188	626	2,814	2,433	728	3,161	2,641	779	3,420
Idaho .....	748	163	911	874	181	1,055	924	215	1,139
Illinois .....	11,760	3,883	15,643	12,763	4,205	16,968	13,387	4,445	17,832
Indiana .....	6,467	1,077	8,444	6,821	2,234	9,055	7,152	2,424	9,576
Iowa .....	6,119	1,005	7,124	6,466	1,115	7,581	6,477	1,205	7,682
Kansas .....	4,109	984	5,093	4,423	416	4,839	4,483	1,142	5,625
Kentucky .....	2,364	552	2,916	2,541	599	3,140	2,574	616	3,190
Louisiana .....	1,776	618	2,394	2,058	707	2,765	2,179	777	2,956
Maine .....	1,226	514	1,740	1,309	579	1,888	1,402	650	2,052
Maryland .....	2,297	283	2,580	2,489	283	2,772	2,748	121	2,869
Massachusetts ..	6,024	2,239	8,263	6,441	2,377	8,818	6,671	1,955	8,626
Michigan .....	9,165	2,174	11,339	10,036	3,132	13,168	10,337	3,277	13,614
Minnesota .....	5,313	941	6,254	5,659	1,494	7,153	5,723	1,706	7,429
Mississippi .....	1,558	374	1,932	1,802	435	2,237	1,921	450	2,371
Missouri .....	5,517	1,252	6,769	5,968	1,375	7,343	6,196	1,486	7,682
Montana .....	847	260	1,107	916	314	1,230	977	374	1,351
Nebraska .....	3,019	793	3,812	3,382	617	3,999	3,426	676	4,102
Nevada .....	195	64	259	208	97	305	220	110	330
New Hampshire ..	764	193	957	827	226	1,053	880	269	1,149
New Jersey .....	5,162	2,632	7,794	5,851	2,829	8,680	6,454	2,975	9,429
New Mexico ....	479	34	513	536	38	574	581	34	615
New York .....	14,828	7,140	21,968	16,608	7,862	24,470	17,887	8,022	25,909
North Carolina ..	3,112	590	3,702	3,520	671	4,191	3,899	823	4,722
North Dakota ..	1,331	242	1,573	1,448	265	1,713	1,441	343	1,784
Ohio .....	12,302	3,623	15,925	13,508	4,019	17,527	14,336	4,259	18,595
Oklahoma .....	3,967	666	4,633	4,542	1,063	5,605	4,419	1,390	5,809
Oregon .....	2,058	371	2,429	2,217	406	2,623	2,306	457	2,763
Pennsylvania ...	12,289	4,086	16,375	13,523	4,297	17,820	14,487	4,514	19,001
Rhode Island ....	922	411	1,333	1,004	447	1,451	1,081	452	1,533
South Carolina ..	1,507	318	1,825	1,607	370	1,977	1,765	421	2,186
South Dakota ...	1,499	307	1,806	1,496	318	1,814	1,488	365	1,853
Tennessee .....	2,256	481	2,737	2,589	531	3,120	2,730	535	3,274
Texas .....	8,923	1,822	10,745	9,512	2,156	11,668	10,031	2,362	12,393
Utah .....	819	228	1,047	754	252	1,006	835	267	1,102
Vermont .....	681	106	787	723	117	840	773	131	904
Virginia .....	2,475	760	3,235	2,744	1,040	3,784	2,893	1,042	3,935
Washington ....	2,932	1,078	4,010	3,234	1,214	4,448	3,403	1,329	4,732
West Virginia ...	1,955	574	2,529	2,072	550	2,622	2,237	591	2,828
Wisconsin .....	5,443	1,418	6,861	5,998	1,717	7,715	6,285	1,892	8,177
Wyoming .....	444	106	550	463	113	576	475	132	607
United States ...	\$181,451	\$54,084	\$235,535	\$199,371	\$60,425	\$259,796	\$209,817	\$63,892	\$273,709

68 *Economic Ability of States to Finance Public Schools*

TABLE 17 (Continued)

State	1928			1929			1930		
	Passenger Cars	Trucks	Total	Passenger Cars	Trucks	Total	Passenger Cars	Trucks	Total
21	22	23	24	25	26	27	28	29	30
Alabama .....	\$ 2,337	\$ 684	\$ 3,021	\$ 2,463	\$ 750	\$ 2,313	\$ 2,378	\$ 753	\$ 3,131
Arizona .....	808	167	1,065	1,026	214	1,240	1,028	241	1,269
Arkansas .....	1,789	608	2,487	1,908	824	2,732	1,907	560	2,467
California .....	17,108	4,711	21,819	19,031	4,638	23,669	19,578	4,992	24,570
Colorado .....	2,693	506	3,199	2,838	602	3,440	2,857	668	3,525
Connecticut ....	2,880	1,138	4,018	3,067	1,169	4,236	3,087	1,197	4,284
Delaware .....	431	234	665	468	239	707	476	247	723
Florida .....	3,004	1,105	4,199	3,011	1,125	4,136	2,865	1,043	3,908
Georgia .....	2,704	840	3,634	3,121	995	4,116	2,961	966	3,927
Idaho .....	982	240	1,222	1,057	293	1,350	1,058	312	1,370
Illinois .....	14,023	4,584	18,607	15,066	4,897	19,963	15,268	4,999	20,267
Indiana .....	7,248	2,441	9,689	7,603	2,613	10,216	7,665	2,676	10,341
Iowa .....	6,708	1,340	8,048	7,131	1,526	8,657	7,044	1,585	8,629
Kansas .....	4,729	1,295	6,024	5,087	1,541	6,628	5,125	1,739	6,864
Kentucky .....	2,742	655	3,397	3,004	707	3,711	2,969	743	3,712
Louisiana .....	2,254	814	3,068	2,367	922	3,289	2,326	890	3,216
Maine .....	1,471	703	2,174	1,561	774	2,335	1,569	793	2,362
Maryland .....	2,846	236	3,082	2,906	909	3,815	2,935	885	3,820
Massachusetts ..	6,918	2,185	9,103	7,812	2,409	10,221	8,071	2,543	10,594
Michigan .....	11,225	3,458	14,683	12,618	3,696	16,314	12,016	3,512	15,528
Minnesota .....	5,909	1,885	7,794	6,384	2,093	8,477	6,325	2,269	8,594
Mississippi .....	2,102	650	2,752	2,127	674	2,801	1,991	694	2,685
Missouri .....	6,464	1,571	8,035	6,815	1,761	8,576	6,804	1,888	8,692
Montana .....	1,075	453	1,528	1,189	521	1,710	1,129	532	1,661
Nebraska .....	3,584	711	4,295	3,762	906	4,668	3,678	1,256	4,934
Nevada .....	234	116	350	273	136	409	252	129	381
New Hampshire ..	934	300	1,234	1,001	298	1,299	982	406	1,388
New Jersey .....	6,929	3,041	9,970	7,601	3,152	10,753	7,919	3,147	11,066
New Mexico .....	643	41	684	766	49	815	710	283	993
New York .....	19,385	8,279	27,664	21,163	8,734	29,897	21,658	8,723	30,381
North Carolina ..	4,186	930	5,116	4,303	1,082	5,385	3,968	1,146	5,114
North Dakota ..	1,510	470	1,980	1,613	561	2,174	1,546	597	2,143
Ohio .....	15,135	4,311	19,446	16,274	4,479	20,753	16,221	4,432	20,653
Oklahoma .....	4,699	1,367	6,066	5,152	1,284	6,436	4,956	1,263	6,219
Oregon .....	2,346	451	2,797	2,549	476	3,025	2,422	378	2,800
Pennsylvania ...	15,197	4,984	20,181	16,212	4,898	21,110	16,415	4,926	21,341
Rhode Island ...	1,161	461	1,622	1,247	471	1,718	1,277	463	1,740
South Carolina ..	1,909	472	2,381	2,021	536	2,557	1,888	551	2,439
South Dakota ...	1,663	448	2,111	1,764	503	2,267	1,752	551	2,303
Tennessee .....	2,995	584	3,579	3,355	687	4,042	3,363	793	4,156
Texas .....	10,671	3,169	13,840	11,730	3,758	15,488	11,669	4,247	15,916
Utah .....	871	288	1,159	990	342	1,332	995	300	1,335
Vermont .....	830	159	989	891	180	1,071	827	173	1,000
Virginia .....	3,076	1,141	4,217	3,293	1,249	4,542	3,193	1,220	4,413
Washington ....	3,594	1,328	4,922	3,959	1,430	5,389	3,989	1,450	5,439
West Virginia ...	2,218	752	2,970	2,350	844	3,194	2,321	848	3,169
Wisconsin .....	6,666	2,040	8,706	7,106	2,225	9,331	6,982	2,248	9,230
Wyoming .....	509	155	664	542	180	722	539	203	742
United States ...	\$221,665	\$68,591	\$290,256	\$239,667	\$74,352	\$314,019	\$238,954	\$76,497	\$315,451

# Supplementary Taxes

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TABLE 17 (Continued)

State	1931			1932		
	Passenger Cars	Trucks	Total	Passenger Cars	Trucks	Total
31	32	33	34	35	36	37
Alabama .....	\$ 2,110	\$ 674	\$ 2,784	\$ 1,024	\$ 639	\$ 2,563
Arizona .....	967	253	1,220	828	207	1,125
Arkansas .....	1,473	649	2,122	1,109	496	1,605
California .....	19,327	5,313	24,640	18,533	5,054	23,587
Colorado .....	2,846	677	3,523	2,623	633	3,256
Connecticut .....	3,116	1,215	4,331	3,149	1,247	4,396
Delaware .....	471	233	704	451	220	671
Florida .....	2,816	1,016	3,832	2,539	738	3,277
Georgia .....	2,754	948	3,702	2,459	862	3,321
Idaho .....	972	331	1,303	824	286	1,110
Illinois .....	15,011	4,853	19,864	13,867	4,376	18,243
Indiana .....	7,503	2,706	10,209	6,893	2,537	9,430
Iowa .....	6,675	1,721	8,396	6,020	1,620	7,649
Kansas .....	4,788	1,683	6,471	4,317	1,501	5,818
Kentucky .....	2,932	725	3,657	2,606	669	3,275
Louisiana .....	2,167	952	3,119	1,994	876	2,870
Maine .....	1,569	822	2,391	1,427	741	2,168
Maryland .....	2,978	844	3,822	2,930	811	3,741
Massachusetts .....	7,943	2,547	10,490	7,473	2,539	10,012
Michigan .....	11,131	3,206	14,337	10,252	2,828	13,080
Minnesota .....	6,183	2,276	8,459	5,859	2,131	7,990
Mississippi .....	1,495	634	2,129	1,173	506	1,769
Missouri .....	6,657	1,978	8,635	6,250	2,046	8,296
Montana .....	1,060	499	1,559	905	425	1,330
Nebraska .....	3,556	1,282	4,838	3,209	1,143	4,352
Nevada .....	270	143	413	266	140	406
New Hampshire .....	974	399	1,373	918	390	1,308
New Jersey .....	8,058	3,151	11,209	7,869	3,111	10,980
New Mexico .....	659	328	987	619	311	930
New York .....	21,519	8,469	29,988	20,988	7,950	28,938
North Carolina .....	3,730	1,115	4,845	3,262	964	4,226
North Dakota .....	1,438	574	2,012	1,295	495	1,790
Ohio .....	15,791	4,164	19,955	14,675	3,666	18,342
Oklahoma .....	4,316	1,161	5,477	3,819	1,036	4,855
Oregon .....	2,627	500	3,127	2,421	498	2,919
Pennsylvania .....	16,219	4,952	21,171	15,332	4,844	20,176
Rhode Island .....	1,285	461	1,746	1,233	435	1,668
South Carolina .....	1,768	491	2,259	1,539	410	1,949
South Dakota .....	1,650	519	2,169	1,426	428	1,854
Tennessee .....	3,209	713	3,922	2,676	659	3,335
Texas .....	10,916	4,334	15,250	10,027	3,895	13,922
Utah .....	944	354	1,298	852	337	1,189
Vermont .....	793	178	971	723	176	899
Virginia .....	3,223	1,205	4,428	3,072	1,315	4,387
Washington .....	3,750	1,378	5,128	3,946	1,480	5,426
West Virginia .....	2,193	827	3,020	1,970	728	2,698
Wisconsin .....	6,593	2,433	9,026	6,038	2,283	8,321
Wyoming .....	534	220	754	478	203	681
United States .....	\$230,959	\$76,106	\$307,065	\$215,068	\$71,065	\$286,133

tion. Similar reasons impelled the former Committee to the same course of action. Its decision, like ours, implied no lack of appreciation of the importance of the inheritance tax in any good system of state and local taxation. It has been easier for us than it could have been for the former Committee to decide upon our course of action, because of two important developments of the last fifteen years. The first has been the decision finally reached by the Supreme Court of the United States, that only the state of the decedent's domicile can tax successions to intangible property, and that only the state of situs can tax successions to tangible property. . . . The second development has been the action of the Federal Government in granting the estates of decedents the so-called "80 per cent credit" on account of estate and inheritance taxes paid to any state. . . . At the present time there seems to be no major issue of immediate importance that requires the attention of our Committee; and we therefore have decided to make no recommendations which, perforce, would be confined to matters of minor detail, many of them of an administrative character.<sup>7</sup>

It seems, therefore, that since a state may collect considerable tax revenue by taking advantage of the Federal tax credit allowance on estates or inheritance taxes without increasing the tax burden on its citizens, the states should claim the tax credits allowed by the Federal Government. Such a decision appears to be in harmony with the intention of the Model Tax Plan.

The tax plan used in this study assumes that the states should have passed legislation in 1924 designed to take advantage of the inheritance tax credits allowed by the Federal Government. From 1924 to 1926 the Federal Government permitted such tax credits up to 25 per cent of the total amount of the estates or inheritance taxes due. In 1926 this amount was increased to 80 per cent.

The procedure used to determine the amount of inheritance tax which the several states would have collected during most years included in the study is relatively simple. That is, the Federal data show the amount of Federal tax due under the Act of 1924 and the amount due under the Act of 1926. These data, therefore, can be multiplied by 25 per cent or 80 per cent—depending on the Federal Act under which applied—to obtain the tax credits due each state. It might be well to point out that in case the death occurred prior to February 26, 1926, the administration of the estate came under the Act of 1924. In many cases it took several years to administer

<sup>7</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), pp. 58-59.

the estate. For that reason, taxes were collected under the Act of 1924 for several years after that date.

Table 18 illustrates the technique used to determine the amount of inheritance tax revenue which each state would have received by taking advantage of the tax credits allowed by the Federal Government. The tax revenue thus determined for each state during each year is shown in Table 27, page 112. The basic data in Table 18 are from issues of *Statistics of Income*, which show the total Federal estates tax due before allowing tax credits due to state inheritance tax collections. These amounts are multiplied by 25 per cent or 80 per cent, depending on the year, in order to determine the amount which the states could have claimed. The data given in *Statistics of Income*, however, are not complete during certain years (1924, 1925, and 1926). The following paragraphs explain the procedure used during those years.

In 1926 the Federal Government passed a new law permitting the states to claim 80 per cent of the inheritance tax due the Federal Government. The Federal Government had been allowing a 25 per cent tax credit to the states since 1924. The basic data do not show the amount of tax credits which each state could claim during 1926 under each law. Rather, the data show the amount of Federal inheritance tax due before deducting the tax credits. It is necessary, therefore, to determine the amount due under the Act of 1924 and the amount due under the Act of 1926. These amounts can then be multiplied by 25 per cent and 80 per cent, respectively, and the products added in order to obtain the amount of inheritance tax which each state could have claimed under the Federal laws.

The amount of inheritance tax due the states in 1926 under the Act of 1924 was determined by applying to the total Federal estates taxes collectible in 1926 an index which showed the per cent of total Federal estates taxes collected in 1928 under the Act of 1926 (that is, 1928 was two years after the Act of 1926 went into force and 1926 was two years after the Act of 1924 became effective). The assumption, therefore, is not that the states would have collected the same amount of inheritance tax in 1926 as they did in 1928. Rather, it is assumed that the states would have held their same relative positions in the amount of inheritance tax due in 1926 as compared to the amount of such taxes due during 1928. The amount collected in 1926 under the Act of 1926 was obtained by subtracting the amount collected in that year under the Act of 1924

TABLE 18  
INHERITANCE TAX REVENUE 1924-1932

State	1924			1925		
	Gross Federal Tax		Tax Credits to State, in Thousands	Gross Federal Tax	Tax Credits to State	
	Total	Act 1924			Gross	Net Tax, in Thousands
1	2	3	4	5	6	7
Alabama .....	\$ 236,996	\$ 230	\$.	\$ 79,950	\$ 73,362	\$ 67
Arizona .....	4,444	..	..	152,274	2,040	..
Arkansas .....	122,192	1,858	1	47,231	40,803	35
California .....	3,402,982	3,437	1	9,823,938	6,846,302	4,771
Colorado .....	464,309	4,271	1	509,431	428,991	361
Connecticut .....	2,839,077	355	..	3,190,836	3,018,850	2,856
Delaware .....	50,256	124	..	32,519	32,477	32
Florida .....	142,109	154	..	1,041,328	207,433	41
Georgia .....	240,048	..	..	577,701	364,876	230
Idaho .....	1,646	..	..	172,149	170,032	168
Illinois .....	2,119,063	2,003	1	4,535,638	3,906,999	3,366
Indiana .....	702,202	20,627	5	1,275,510	937,755	689
Iowa .....	364,371	402	..	396,760	340,857	293
Kansas .....	267,869	6,077	2	231,147	205,051	182
Kentucky .....	219,864	227	..	282,333	233,941	194
Louisiana .....	871,708	..	..	138,711	137,809	137
Maine .....	3,573,015	1,601	..	477,136	448,126	421
Maryland .....	1,552,800	571	..	752,928	599,033	478
Massachusetts .....	4,973,690	4,292	1	4,769,125	4,216,860	3,729
Michigan .....	3,658,532	3,809	1	1,703,213	1,490,822	1,305
Minnesota .....	1,125,641	88	..	756,600	735,567	715
Mississippi .....	66,159	..	..	64,240	56,512	50
Missouri .....	780,681	1,586	..	897,234	840,080	787
Montana .....	36,811	..	..	156,291	132,238	112
Nebraska .....	222,885	527	..	159,257	149,351	140
Nevada .....	655	..	..	1,534	..	..
New Hampshire .....	95,630	9	..	269,023	255,545	243
New Jersey .....	5,052,470	5,280	1	3,963,116	3,739,596	3,528
New Mexico .....	505	314	..	2,306	1,702	1
New York .....	20,278,242	22,286	6	36,604,247	28,155,987	21,658
North Carolina .....	167,885	200	..	2,461,956	2,274,355	2,101
North Dakota .....	38,494	..	..	20,999	2,327	..
Ohio .....	2,545,813	12,497	3	2,003,406	1,876,590	1,758
Oklahoma .....	34,902	69	..	742,036	628,208	532
Oregon .....	59,590	33	..	189,475	167,496	148
Pennsylvania .....	5,322,027	2,693	1	13,223,124	12,329,241	11,496
Rhode Island .....	451,311	..	..	757,115	708,962	664
South Carolina .....	110,794	..	..	141,286	128,570	117
South Dakota .....	35,249	125	..	32,867	22,366	15
Tennessee .....	128,019	343	..	574,136	432,439	326
Texas .....	628,174	..	..	720,194	440,471	269
Utah .....	8,929	48	..	108,377	101,896	96
Vermont .....	43,411	..	..	493,583	112,685	26
Virginia .....	215,524	516	..	505,502	398,083	314
Washington .....	126,113	..	..	190,733	169,104	150
West Virginia .....	470,128	..	..	267,513	251,970	237
Wisconsin .....	1,962,288	8,255	2	1,118,189	869,392	676
Wyoming .....	28,530	78	..	23,257	23,257	23
United States .....	\$65,844,033	\$104,985	\$26	\$96,637,454	\$78,707,399	\$65,537

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TABLE 18 (Continued)

State	Federal Tax Before Deducting Tax Credit	Act of 1926		Act of 1924		Tax Credits to State, in Thousands
		Gross Federal Tax	Tax Credits to State	Gross Federal Tax	Tax Credits to State	
		8	9	10	11	12
						13
Alabama .....	\$ 371,318	\$ 361	\$ 289	\$ 370,957	\$ 92,739	\$ 93
Arizona .....	3,255	..	..	3,255	814	1
Arkansas .....	85,788	1,304	1,043	84,484	21,121	22
California .....	4,024,628	4,065	3,252	4,020,563	1,005,141	1,008
Colorado .....	619,030	5,694	4,555	613,336	153,334	158
Connecticut .....	2,116,771	265	212	2,116,506	520,127	529
Delaware .....	286,202	707	566	285,495	71,374	72
Florida .....	7,877,013	8,523	6,818	7,868,400	1,967,123	1,974
Georgia .....	101,782	..	..	101,782	25,446	25
Idaho .....	24,210	..	..	24,210	6,053	6
Illinois .....	4,926,074	4,655	3,724	4,921,419	1,230,355	1,234
Indiana .....	376,547	11,061	8,849	365,486	91,372	100
Iowa .....	894,757	987	790	893,770	223,443	224
Kansas .....	124,218	2,818	2,254	121,400	30,350	33
Kentucky .....	669,551	690	552	668,861	167,215	168
Louisiana .....	205,403	..	..	205,403	51,351	51
Maine .....	1,990,414	894	715	1,995,520	498,880	500
Maryland .....	692,002	255	204	691,747	172,937	173
Massachusetts .....	5,097,331	4,399	3,519	5,092,932	1,273,233	1,277
Michigan .....	2,554,600	2,659	2,127	2,551,941	637,985	640
Minnesota .....	502,194	39	31	502,155	125,539	126
Mississippi .....	67,166	..	..	67,166	16,792	17
Missouri .....	1,058,214	2,150	1,720	1,056,064	264,016	265
Montana .....	10,064,614	..	..	10,064,614	2,516,154	2,516
Nebraska .....	221,133	523	418	220,610	55,153	56
Nevada .....	5,575	..	..	5,575	1,394	1
New Hampshire .....	209,019	19	15	209,000	52,250	52
New Jersey .....	11,601,269	12,123	9,698	11,589,146	2,897,287	2,907
New Mexico .....	1,350	839	671	511	128	1
New York .....	58,700,164	64,511	51,610	58,635,653	14,658,904	14,711
North Carolina .....	644,930	769	615	644,161	161,040	162
North Dakota .....	29,090	..	..	29,090	7,273	7
Ohio .....	4,607,120	22,616	18,093	4,584,504	1,146,126	1,164
Oklahoma .....	81,635	162	130	81,473	20,368	20
Oregon .....	286,580	157	126	286,423	71,606	72
Pennsylvania .....	10,494,876	5,310	4,248	10,489,566	2,622,392	2,627
Rhode Island .....	1,053,745	..	..	1,053,745	263,436	263
South Carolina .....	71,663	..	..	71,663	17,016	18
South Dakota .....	33,589	119	95	33,470	8,368	8
Tennessee .....	356,613	956	765	355,657	88,914	90
Texas .....	2,078,888	..	..	2,078,888	519,722	520
Utah .....	61,393	331	265	61,062	15,266	16
Vermont .....	44,931	..	..	44,931	11,233	11
Virginia .....	287,657	688	550	286,969	71,742	72
Washington .....	166,030	..	..	166,030	41,508	42
West Virginia .....	621,866	..	..	621,866	155,467	155
Wisconsin .....	1,035,837	4,358	3,486	1,031,479	257,870	261
Wyoming .....	7,935	22	18	7,913	1,978	2
United States .....	\$137,441,970	\$165,029	\$132,023	\$137,276,941	\$34,319,235	\$34,451

TABLE 18 (Continued)

1927					
State	Act of 1924		Act of 1926		Total Tax Credits* to State
	Gross Federal Tax	Tax Credits to State	Gross Federal Tax	Tax Credits to State	
14	15	16	17	18	19
Alabama .....	\$25,185	\$6,296	\$280,441	\$224,353	\$231
1928					
State	Gross Federal Tax		Tax Credits to State		Total Tax*
	Act 1924	Act 1926	Act 1924	Act 1926	
20	21	22	23	24	25
Alabama .....	\$236	\$242,611	\$59	\$194,089	\$194
1929					
State	Act of 1924		Act of 1926		Total Tax Credits* to State
	Gross Federal Tax	Credits to State	Gross Federal Tax	Credits to State	
26	27	28	29	30	31
Alabama .....	\$168	\$42	\$252,735	\$202,188	\$202
1930					
State	Federal Estates Tax Before Deducting Tax Credits to State	Tax Credits to States*	Additional Tax Due to Depression	Total*	
32	33	34	35	36	
Alabama .....	\$236,315	\$189	\$45	\$234	
1931					
State	Federal Estates Tax Before Deducting Tax Credits to State	Tax Credits* to States	Additional* Tax Due to Depression	Total*	
37	38	39	40	41	
Alabama .....	\$430,984	\$345	\$160	\$505	
1932					
State	Federal Inheritance * Tax Collections Under Act of 1926	Tax Credits* to States	Additional* Tax Due to Depression	Total*	
42	43	44	45	46	
Alabama .....	\$13	\$22	\$15	\$37	

\* In thousands of dollars.



from the total amount collectible. These amounts (see Table 18) were then multiplied by 25 per cent and 80 per cent, respectively, and the products added.

The amount of inheritance tax due the states in 1924 under the Federal allowance was determined by applying to the amount of Federal estates tax due before deducting tax credits an index which showed the percentage of the total in 1926 which was collected under the Act of 1926. The assumption involved in the procedure used for 1924, like that for the procedure used for 1926, is not that the states would have collected the same amount of inheritance tax in 1924 as they did during 1926. Rather, it is assumed that the states would have held their same relative position in the amount of inheritance tax due in 1924 under the Act of 1924 as compared to the amount of such tax due in 1926 under the Act of 1926.

It was believed that the maximum tax credits allowed the states in 1925, under the Act of 1924, would bear the same percentage relationship to the total Federal estates tax collected in that year as the maximum tax credits in 1927, under the Act of 1926, bore to the total Federal estates tax collections in 1927, that is, 1925 was the year immediately following the one in which the Act of 1924 became effective; and 1927 immediately followed the year in which the Act of 1926 went into effect. The foregoing procedure, like that used for 1926 and 1924, assumes not a constant amount of inheritance tax collections among the states but rather a proportional amount.

In Chapter II attention was called to the problem introduced during the three years 1930, 1931, and 1932 because of the depression. The procedure used to determine the amount of revenue which the inheritance tax was responsible for, in addition to the tax credits allowed by the Federal Government, during the three depression years 1930 to 1932 was explained at that time. (See Table 3.) The amount thus determined for the forty-eight states during each of these years was distributed to the several states in proportion to the Federal tax credits allowed each state. The technique applied to Alabama is shown in columns 36, 41, and 46 of Table 18. The same procedure was used for the other states.

Concerning the validity of the procedure used to determine the amount of inheritance tax which the several states would have collected, the following discussion is offered. With the exception of the three years 1924, 1925, and 1926, the amounts of such tax due the

states was determined by multiplying the Federal data by 25 per cent or 80 per cent, depending on which Federal law was involved. The tax revenue thus determined was as valid as the Federal data were. Any error, therefore, would be confined to the three earlier years. The assumption back of the procedure used for 1924 involved the determination of the total amount of such tax which was due the states under the Act of 1924 as against an earlier Act. The assumption was that the states held the same relative position that they did in 1926 under the Act of 1926, and it seems to be a reasonable one. It accepts the proposition that the distribution of revenue from inheritance taxes in 1924 was approximately the same as in 1926. It overlooks the variable factor of the distribution of deaths among those who paid inheritance taxes in those two years. Although it may be that the estate of the wealthiest individual who died in a given state in 1924 may be worth more than the estate of the wealthiest individual who died in that state in 1926, or vice versa, yet when the whole state was considered the above condition would tend to be offset by the fact that the mortality rate of the various economic classes was probably about the same in each of the two years. A similar assumption was involved in the procedure used for 1925 and 1926.

The effects of any error resulting from the foregoing assumption should be noted. The total amount of inheritance tax which the forty-eight states would have collected was \$26,000, \$65,537,000, and \$34,451,000 for the three years. The total annual revenue for each year from all taxes under the tax plan proposed in the study would have been approximately \$5,000,000,000. Any error in the inheritance tax for those three years would have affected the final results very little since the inheritance tax during those three years was responsible for approximately 1 per cent of the total tax collections.

## CHAPTER VI

### THE RETAIL SALES TAX

Tax experts generally oppose the sales tax as a permanent part of a tax system. The following brief quotations from three authorities on taxation illustrate attitudes of tax experts toward the sales tax:

In common with most professional students of taxation in this country, the writer has had an unfavorable opinion of the sales tax, although he has not believed it to be by any means unworkable or impracticable with respect to raising considerable amounts of revenue. The results of the present study have caused him to favor the tax even less than before, chiefly because of the implications found with respect to the distribution of its burden. As an emergency source of revenue the tax has the undeniable advantage of yielding a certain amount of money, quickly; but it is not the only tax possessing this virtue. It should not be difficult for the professional student, though removed from the immediate arena of contest, to sympathize with the actions of legislators and others in many states who have been trapped by constitutional limitations on the taxing power and by threats of articulate and powerful groups who would be injured by resort to forms of emergency revenue other than the sales tax. Nevertheless, in the writer's opinion, the sales tax as an emergency form of revenue, and certainly as a permanent part of any state's tax system, marks an unnecessary and backward step in taxation.<sup>1</sup>

The following statement presents a conclusion concerning crucial issues involved in the sales tax, namely, its effects first, upon business, provided business bears the tax burden and, second, upon consumers, provided they bear the tax burden, as compared to the effects of certain other taxes which may be utilized to raise an equivalent amount of tax revenue:

If it be true that a sales tax at a rate of 2 per cent or less is in large part a levy, at least temporarily, upon the profits or capital of business firms, especially the small ones, what then may be said of the distributive effects of the tax? Although ideas concerning equity in taxation

<sup>1</sup> Robert M. Haig and Carl Shoup, *The Sales Tax in American States* (1934), pp. 107-108.

naturally differ, it is difficult to conceive of any basis upon which such an apportionment of the tax burden can be justified. The sales tax, if not shifted, bears a percentage relation to income or capital which varies widely from one type of business to another, and even more widely from one business owner to another. . . .<sup>2</sup>

In so far as it (a sales tax) rests on the business establishment it fails in the aim set for it, and even when shifted, its burden cannot be apportioned as precisely as can that of certain other taxes.<sup>3</sup>

Several years ago Seligman made the following statement concerning the sales tax:

. . . the general sales tax constitutes the last resort of countries which find themselves in such fiscal difficulties that they must subordinate all other principles of taxation to that of adequacy.<sup>4</sup>

After discussing the sales tax in the light of sound principles of taxation, Seligman said:

The sales tax, it is evident, sins against every one of these principles.<sup>5</sup>

There has been a rapid growth in the use of the sales tax in the various states in recent years. On March 1, 1934, twenty-six states had some form of sales tax, and as Shoup has said, "There are signs that before many months have passed it will have spread still further."<sup>6</sup> However, five of these states had a graduated sales tax and five more had low-rate taxes. Whether the sales tax will prove to be a temporary or permanent part of the tax system of these states is not certain.

The Committee of the National Tax Association which formulated the Model Tax Plan was, through lack of time and funds at its disposal, unable to give the sales tax much special study. Accordingly, the recommendations concerning the sales tax, as well as other forms of indirect taxation, were confined to the fiscal problems confronting the states during the economic depression.

What we say on this subject should be understood to have reference to the present emergency, and not to have, necessarily, any bearing upon the very different question of how far and in what forms the states should resort to indirect taxation when normal times return.

Of the various expedients that have been proposed, we regard the tax

<sup>2</sup> Robert M. Haig and Carl Shoup, *op. cit.*, p. 103.

<sup>3</sup> *Ibid.*, p. 104.

<sup>4</sup> Edwin R. A. Seligman, *Studies in Public Finance* (1925), p. 131.

<sup>5</sup> *Ibid.*, p. 132.

<sup>6</sup> Robert M. Haig and Carl Shoup, *op. cit.*, pp. 2-3.

on retail sales as the most eligible. This encounters no constitutional difficulties and fewer difficulties arising from interstate competition than are raised by sales taxes falling upon jobbers and manufacturers. . . . The sales tax does not involve unfair discrimination against the retailer. If it were levied upon producers and were wholly shifted through increase of prices, the retailer, although exempt from the tax, would nevertheless be the person to which would fall the obligation of passing the accumulated, or pyramided, burden along to the consumer, who in the usual view of the case is assumed to bear the final burden. Finally, the tax is advantageous because it is placed at the point nearest to consumption, which is in accordance with sound fiscal policy.<sup>7</sup>

The purpose of this chapter is to present estimates of the tax revenue which the various states would have received from a retail sales tax. This revenue will then be added to that which the states could have raised under the plan of taxation presented in the foregoing chapters, and indices of the relative ability of the states will be shown. A comparison of these indices with the indices of ability which do not include the tax revenue from the retail sales tax will be made in order to determine the effect of the retail sales tax on the relative ability of the various states. The estimates of the tax revenue from the retail sales tax as presented in this chapter, therefore, are offered as one of the steps necessary in forming a judgment of the merits of the sales tax. This will make it possible to observe the effect of the use of a sales tax upon the relative tax-raising ability of the states.

The retail sales tax used in this study is the one contained in the report of the New York State Tax Commission.<sup>8</sup> It consists of two parts: first, a series of special sales taxes on luxuries, including tobacco, amusements, soft drinks, patent medicines, and chewing gum; and, second, a general tax on the retail sales of tangible articles. The sales tax on gasoline remained as it was, and was not considered a part of the new sales tax.

The procedure used to estimate the tax yield is the same as the one used by Shoup<sup>9</sup> to estimate the tax yield for the New York State Tax Commission, except in a few minor instances where Professor

<sup>7</sup> National Tax Association, *Second Report on a Plan of a Model System of State and Local Taxation* (1933), p. 63.

<sup>8</sup> State of New York, *Third Report of the New York State Commission for the Revision of the Tax Laws*, Legislative Document (1933), No. 50, p. 26.

<sup>9</sup> *Ibid.*, pp. 149-158.

State of New York, *Report of the New York State Commission for the Revision of Tax Laws* (1932).

TABLE  
ORDINARY RETAIL SALE

State	Gross Receipts	Receipts from Manufacturing Bakeries, Planing Mills, and Retail Sales by "Wholesalers Only"	Total
1	2	3	4
Alabama .....	\$ 527,100,730	\$ 10,630,766	\$ 537,731,496
Arizona .....	198,620,286	3,340,409	201,960,695
Arkansas .....	412,679,829	5,063,475	417,743,304
California .....	3,210,863,080	91,287,886	3,302,150,975
Colorado .....	466,958,520	11,042,014	478,000,534
Connecticut .....	768,509,848	18,876,307	787,386,155
Delaware .....	103,512,538	2,137,366	105,649,904
Florida .....	504,522,545	10,772,164	515,294,709
Georgia .....	635,440,485	14,511,913	649,952,398
Idaho .....	169,087,312	1,812,850	170,900,162
Illinois .....	3,711,902,529	110,038,858	3,821,941,387
Indiana .....	1,222,384,471	36,207,973	1,258,592,444
Iowa .....	972,136,162	19,770,338	991,906,500
Kansas .....	744,585,928	7,679,362	752,265,290
Kentucky .....	587,340,468	11,310,072	598,650,540
Louisiana .....	476,643,038	10,050,092	486,693,130
Maine .....	307,627,182	10,030,071	317,657,253
Maryland .....	619,573,436	15,916,809	635,490,245
Massachusetts .....	2,054,975,829	67,726,772	2,122,702,601
Michigan .....	2,226,397,830	53,297,767	2,279,695,597
Minnesota .....	1,051,929,663	25,633,132	1,077,562,795
Mississippi .....	413,737,011	5,288,986	419,025,997
Missouri .....	1,448,220,363	34,775,055	1,482,995,418
Montana .....	243,828,109	3,490,424	247,318,533
Nebraska .....	562,944,478	13,840,068	576,784,546
Nevada .....	50,401,338	992,880	51,394,218
New Hampshire .....	184,285,301	3,141,407	187,426,708
New Jersey .....	1,843,544,532	50,943,808	1,894,488,340
New Mexico .....	119,758,409	1,291,180	121,049,589
New York .....	7,070,413,862	205,811,243	7,276,225,105
North Carolina .....	653,418,597	18,697,425	672,116,022
North Dakota .....	234,539,858	1,945,705	236,485,563
Ohio .....	2,864,831,119	87,905,016	2,952,736,135
Oklahoma .....	795,028,171	6,894,510	801,922,681
Oregon .....	455,930,890	8,568,755	464,499,645
Pennsylvania .....	3,803,940,527	149,016,502	3,952,957,029
Rhode Island .....	318,295,096	9,448,262	327,743,358
South Carolina .....	300,220,007	6,010,602	306,230,609
South Dakota .....	255,197,004	3,144,731	258,341,735
Tennessee .....	643,816,875	16,394,064	660,210,939
Texas .....	2,043,020,342	26,338,177	2,069,358,519
Utah .....	196,559,205	2,187,604	198,746,809
Virginia .....	600,929,023	14,446,532	615,375,555
Vermont .....	152,175,358	3,201,498	155,376,856
Washington .....	761,808,034	24,876,335	786,684,369
West Virginia .....	447,876,614	9,762,155	457,638,769
Wisconsin .....	1,237,442,318	36,903,044	1,274,345,362
Wyoming .....	103,437,254	701,492	104,138,746
United States .....	\$48,778,391,413	\$1,283,153,856	\$50,061,545,269

# The Retail Sales Tax

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OF TANGIBLE GOODS, 1929

Preliminary Deductions	Net Sales	Additional Deductions	Net Tax Base
5	6	7	8
\$ 49,295,479	\$ 488,436,017	\$ 25,786,969	\$ 462,649,048
14,750,149	187,210,546	9,627,653	177,582,893
45,480,559	372,262,745	19,731,228	352,531,517
214,827,741	3,087,323,234	158,988,245	2,928,334,989
32,049,273	445,951,261	23,075,153	422,876,108
50,874,795	736,511,360	38,088,314	698,423,046
7,759,621	97,890,283	5,128,639	92,761,644
45,316,846	469,977,863	25,006,621	444,971,242
58,364,162	591,588,236	31,456,731	560,131,505
10,151,959	160,748,203	8,250,766	152,497,437
212,184,072	3,609,757,315	185,547,280	3,424,210,035
87,371,424	1,171,221,020	60,860,686	1,110,360,334
77,305,756	914,600,744	47,306,748	867,293,996
58,103,727	694,161,563	36,053,138	658,108,425
54,577,429	544,073,111	28,996,581	515,076,530
54,115,974	432,577,156	23,552,233	409,024,923
24,541,746	293,115,597	15,238,927	277,876,580
44,511,119	590,979,126	30,909,656	560,069,470
112,607,565	2,010,095,036	103,320,636	1,906,774,400
118,318,452	2,161,377,145	110,636,203	2,050,740,942
71,055,889	1,006,506,906	51,847,611	954,659,295
55,691,555	363,334,442	19,232,301	344,102,141
130,753,514	1,352,241,904	70,587,925	1,281,653,979
15,199,081	232,119,452	11,941,586	220,177,866
41,421,192	535,363,354	27,627,902	507,735,452
3,322,701	48,071,517	2,466,392	45,605,125
12,771,573	174,655,135	9,074,489	165,580,646
122,118,283	1,772,370,057	91,947,027	1,680,423,030
9,638,729	111,410,860	5,801,128	105,609,732
360,134,435	6,916,090,670	355,573,982	6,560,516,688
63,392,711	608,723,311	32,333,058	576,390,253
16,538,585	219,946,978	11,370,918	208,576,060
181,488,005	2,771,248,130	142,973,257	2,628,274,873
59,509,743	742,412,938	38,747,426	703,665,512
32,572,743	431,926,902	22,428,979	409,497,923
272,943,117	3,680,013,912	192,563,327	3,487,450,585
21,131,157	306,612,201	15,023,906	290,688,295
32,056,217	274,174,392	14,688,561	259,485,831
19,623,328	238,718,407	12,341,743	226,376,664
55,824,129	604,386,810	31,702,835	572,683,975
178,491,951	1,890,866,568	98,557,162	1,792,309,406
12,966,273	185,780,536	9,560,527	176,220,009
57,366,139	558,009,416	29,615,312	528,394,104
12,504,117	142,872,739	7,402,558	135,470,181
54,664,695	732,019,674	37,785,161	694,234,513
32,578,580	425,060,189	22,277,581	402,782,608
85,031,691	1,189,313,671	61,582,123	1,127,731,548
6,940,449	97,198,297	5,000,493	92,197,804
\$3,390,238,430	\$46,671,306,839	\$2,420,517,677	\$44,250,789,162

TABLE  
DEDUCTIONS FROM ORDINARY RETAIL

State	Exempt Sales	Wholesale Sales by Retailers and Country Buyers	Receipts from Repairs and Other Services
1	2	3	4
Alabama .....	\$ 26,909,000	\$ 12,398,643	\$ 9,987,836
Arizona .....	5,217,000	5,057,740	4,475,409
Arkansas .....	22,045,000	15,941,786	7,493,773
California .....	90,236,000	50,824,225	73,767,516
Colorado .....	15,228,000	6,112,598	10,708,675
Connecticut .....	24,721,000	11,121,330	15,032,465
Delaware .....	4,605,000	1,519,495	1,635,126
Florida .....	29,754,000	5,205,951	10,356,895
Georgia .....	37,050,000	9,086,079	11,328,083
Idaho .....	4,148,000	1,809,948	4,194,011
Illinois .....	98,701,000	52,345,558	61,137,514
Indiana .....	45,087,000	17,887,158	24,397,266
Iowa .....	30,776,000	26,112,716	20,417,040
Kansas .....	26,330,000	15,467,179	16,306,548
Kentucky .....	35,388,000	8,059,733	11,129,696
Louisiana .....	38,118,000	7,796,169	8,201,805
Maine .....	11,428,000	6,860,606	6,253,140
Maryland .....	26,757,000	8,660,190	9,093,929
Massachusetts .....	54,932,000	29,776,678	27,898,887
Michigan .....	49,860,000	33,113,411	35,345,041
Minnesota .....	29,681,000	20,740,586	20,634,303
Mississippi .....	21,004,000	27,492,087	7,195,468
Missouri .....	58,457,000	34,518,424	37,778,090
Montana .....	6,547,000	3,424,029	5,228,052
Nebraska .....	16,783,000	12,439,166	12,199,026
Nevada .....	1,224,000	869,206	1,229,495
New Hampshire .....	6,695,000	2,484,756	3,591,817
New Jersey .....	65,216,000	13,823,985	43,078,298
New Mexico .....	4,529,000	2,710,932	2,398,797
New York .....	190,483,000	73,109,736	96,541,699
North Carolina .....	37,438,000	13,534,133	12,420,578
North Dakota .....	7,287,000	4,154,411	5,097,174
Ohio .....	86,208,000	42,556,506	52,723,499
Oklahoma .....	31,958,000	10,786,191	16,765,552
Oregon .....	16,320,000	5,379,934	10,881,809
Pennsylvania .....	168,489,000	42,570,938	61,883,179
Rhode Island .....	11,643,000	4,318,883	5,169,274
South Carolina .....	19,359,000	7,306,632	5,390,585
South Dakota .....	7,916,000	6,125,646	5,581,682
Tennessee .....	29,186,000	14,200,056	12,438,073
Texas .....	78,845,000	54,304,975	45,341,976
Utah .....	5,300,000	4,480,185	4,186,088
Vermont .....	5,068,000	3,634,010	3,802,107
Virginia .....	33,828,000	13,365,170	10,172,969
Washington .....	23,145,000	13,809,865	17,709,830
West Virginia .....	20,134,000	4,661,569	7,783,011
Wisconsin .....	41,420,000	19,598,432	24,013,259
Wyoming .....	2,741,000	1,283,853	2,915,596
United States .....	\$1,704,194,000	\$782,723,489	\$903,311,941



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## SALE OF TANGIBLE GOODS, 1929

Preliminary Deductions	Additional Deductions		
	Evasion	Cost of Collecting Sales Tax	Total
5	6	7	8
\$ 49,295,479	\$ 21,064	\$ 25,765,005	\$ 25,786,069
14,750,149	6,537	9,621,116	9,627,653
45,480,559	16,943	19,714,285	19,732,228
214,827,741	114,795	158,873,450	158,988,245
32,049,273	16,951	23,058,202	22,075,153
50,874,795	27,932	38,060,382	38,088,314
7,759,621	4,105	5,124,534	5,128,639
45,316,846	21,516	24,985,105	25,006,621
58,364,162	26,672	31,430,059	31,456,731
10,151,959	6,163	8,244,603	8,250,766
212,184,072	129,299	185,417,981	185,547,280
87,371,424	47,539	60,813,147	60,860,686
77,305,756	39,450	47,267,298	47,306,748
58,103,727	29,876	36,023,262	36,053,138
54,577,429	25,295	28,971,286	28,996,581
54,115,974	19,381	23,532,852	23,552,233
24,541,746	12,323	15,226,604	15,238,927
44,511,119	24,188	30,885,468	30,909,656
112,607,565	72,031	103,248,605	103,320,636
118,318,452	76,839	110,559,364	110,636,203
71,055,889	39,700	51,807,911	51,847,611
55,691,555	16,429	19,215,872	19,232,301
130,753,514	55,903	70,532,022	70,587,925
15,199,081	8,591	11,932,995	11,941,586
41,421,192	21,423	27,606,479	27,627,902
3,322,701	1,677	2,464,715	2,466,392
12,771,573	7,317	9,067,172	9,074,489
122,118,283	70,985	91,876,042	91,947,027
9,638,729	4,361	5,796,767	5,801,128
360,134,435	254,824	355,319,158	355,573,982
63,392,711	26,864	32,306,194	32,333,058
16,538,585	9,583	11,361,335	11,370,918
181,488,005	104,761	142,868,496	142,973,257
59,509,743	30,477	38,716,949	38,747,426
32,572,743	17,450	22,411,529	22,428,979
272,943,117	146,606	192,416,721	192,563,327
21,131,157	11,728	15,912,178	15,923,906
32,056,217	12,859	14,675,702	14,688,561
19,623,328	10,418	12,331,325	12,341,743
55,824,129	25,654	31,677,181	31,702,835
178,491,951	75,526	98,481,636	98,557,162
12,966,273	6,765	9,553,762	9,560,527
12,504,117	5,774	7,390,784	7,402,558
57,366,139	25,133	29,590,179	29,615,312
54,664,695	28,085	37,757,076	37,785,161
32,578,580	18,878	22,258,703	22,277,581
85,031,691	47,510	61,534,613	61,582,123
6,940,449	3,665	4,996,828	5,000,493
\$3,390,238,430	\$1,827,845	\$2,418,689,832	\$2,420,517,677

Shoup's procedure could not be readily adopted for the eleven-year period covered in the present study or for the forty-eight states. The details of the procedure will be explained in the following pages as the estimates of the tax yield are made.

Estimates of the tax yield will be made separately for the ordinary retail sales tax and for the "luxury tax" and then will be combined.

#### THE ORDINARY RETAIL SALES TAX

One part of the retail sales tax is a tax on the retail sales of tangible articles, except the sale of motor fuel. Because of the nature of available data, the estimates of this part of the tax have been divided into two parts for purposes of computation. The first part pertains to the ordinary retail sale of tangible goods, except newspapers and periodicals; and the second part pertains to the sale of newspapers and periodicals.

Complete data for the retail sale of tangible articles were obtained for the first time in the Fifteenth Census of the United States. These data, which apply only to the year 1929, are shown in Table 19. However, the procedure used to select the data and combine them in order to arrive at the total needs some explanation.

Column 2 was taken from Table I of the Census of Distribution.<sup>10</sup> Column 3 was taken from Table II of the same source. Certain deductions from column 4 of Table 19, the total retail sales of tangible goods, as obtained by adding columns 2 and 3, are necessary in order to obtain the net tax base for the retail sales tax. Because of the nature of these deductions they are divided into two parts—preliminary deductions and additional deductions. The net tax base is shown in column 8.

Table 20 will be helpful in the first part of the explanation of these deductions. The preliminary deductions consist of three items, namely, exempt sales, wholesale sales by retailers and country buyers, and receipts from repairs and other services. The value of each of these is shown in columns 2, 3, and 4, respectively, of Table 20.

The additional deductions consist of two items: (1) evasions and (2) extra cost of collecting the retail sales tax. By making the additional deductions from net sales, the net tax base, as shown in

<sup>10</sup> Fifteenth Census of the United States, Census of Distribution, *Retail Distribution*, State Series, United States Department of Commerce, Bureau of the Census (1933), Table I.

column 8 of Table 19, is obtained for 1929. The extra cost of collecting the retail sales tax was based on the value of net sales, before deducting the value assigned to evasions.

Each column in Table 20 is based on certain calculations or the combination of readily available data. Each column will now be taken up and discussed at some length in order to show what lies behind it. The value of exempt sales as shown in column 2 was obtained by a rather lengthy series of calculations. Table 21 (based

TABLE 21  
EXEMPTION OF ORDINARY RETAIL SALES OF TANGIBLE GOODS,  
IN THOUSANDS OF DOLLARS, 1929

State	Stores with Annual Net Sales of \$5,000 to \$9,999					Stores, Net Sales \$5,000 or Less	Total Exempt Sales
	Number of Stores	Net Sales	Preliminary Deduction	Adjust- ment	Final		
1	2	3	4	5	6	7	8
Alabama .....	3,519	\$24,767	\$17,595	\$7,172	\$10,423	\$16,486	\$26,909

on column 2 of Table 20) will be helpful in showing the various steps taken in order to arrive at the final results. The data for Alabama are presented to illustrate the procedure. The same procedure was used for the other states. The exemptions pertain to two groups of retail concerns, namely, stores with an annual gross retail sale of \$5,000 or less and stores with the value of such sales ranging from \$5,000 to \$10,000 annually. The New York State Tax Commission recommended the exemption from taxation of all business firms doing a retail business of \$5,000 per year and the partial exemption of firms doing a retail business of less than \$10,000 per year. The justification for these exemptions rests on the problem of administration, that is, the extra cost of collecting the tax was considered too great. In brief, the calculations were: First, total exemption for businesses of \$5,000 or less, the value of which is shown in column 7 of Table 21; and, second, if the firm does an annual business of from \$5,000 to \$10,000 a year, an exemption of \$5,000 minus the difference between \$5,000 and the taxpayer's gross annual income. The value of the latter exemptions was based on the number of such stores and the annual net sales, as shown in columns 2 and 3 of Table 21. The preliminary deductions were obtained by multiplying the number of stores by \$5,000. The adjustment (see column 5) was determined by subtracting the preliminary deduction (column 4) from the net sales (column 3). This adjustment was

then subtracted from the preliminary deduction in order to obtain the final exemption for stores with annual sales of \$5,000 to \$9,999, as shown in column 6. This latter amount was added to the value of exempt sales for stores with annual sales of \$5,000 or less in order to get the total value of exempt sales (see column 8).

The value of wholesale sales by retailers and country buyers was determined by combining certain data taken from *Retail Distribution*, Tables 10 and 11. Table 22 shows the value of the three items

TABLE 22

WHOLESALE SALES BY RETAILERS AND COUNTRY BUYERS, INCLUDED IN GROSS RECEIPTS FOR ORDINARY RETAIL SALES, IN THOUSANDS OF DOLLARS, 1929

State	Sales to Other Retailers for Use or Resale	Retail Sales of Products Not Else- where Specified		Total
		Farm Products	Food Products	
1	2	3	4	5
Alabama .....	\$12,270,980	\$111,563	\$16,100	\$12,398,643

which constitute the total for Alabama. Similar data were collected for the other states and the total obtained for each state is shown in column 3 of Table 20.

The value of receipts from repairs and other services was taken from Table 9 of *Retail Distribution*. As shown in Table 23, this

TABLE 23

RECEIPTS FROM REPAIRS AND OTHER SERVICES, 1929

State	Automobile Repair Services	Other Repairs and Services	Total
1	2	3	4
Alabama .....	\$9,810,359	\$177,477	\$9,987,836

item consists of automobile and other repair services. The data for the other states were treated in the same way as those for Alabama in order to obtain the results shown in column 4 of Table 20.

The additional deductions, as shown in columns 5 and 7 of Table 20, can now be explained more fully. Column 6 of Table 20 represents illegal evasion of the sales tax. It is a total which was obtained by a rather lengthy process. In brief, the procedure used was to apply different "evasion rates" to sales of different size stores, as shown in Table 4 of *Retail Distribution*. These are: stores with annual sales of \$5,000 to \$9,999, 20 per cent; \$10,000 to \$19,999, 10 per cent; \$20,000 to \$29,999, 5 per cent; \$30,000 to

\$49,999, 3 per cent; all others, 2 per cent. Table 24 will be helpful in showing the application of the foregoing procedure as well as the basic data and the value of evasions for the several types of stores for the state of Alabama. The same procedure applied to the other states produces the results shown in column 6 of Table 20.

Five per cent was allowed for the extra cost of collecting the retail sales tax; that is, in order to obtain column 7 of Table 20, column 6 of Table 19 was multiplied by 5 per cent. Columns 6 and 7 of Table 20 (illegal evasion and the extra cost of collecting the tax) were added to get the total additional deductions shown in column 8. As has been pointed out earlier, these amounts were subtracted from column 6 of Table 19 in order to obtain the net tax base for 1929 which is shown in column 8 of that table.

The total value of the retail sale of newspapers and periodicals is furnished each two years in the *Biennial Survey of Manufacturers*. However, these data pertain to the manufacture or printing of newspapers and periodicals by states and therefore do not show the retail sales value by states. Professor Shoup, in his study, arrived at a value of the retail sales of newspapers and periodicals for New York; but for purposes of the present study it was thought best to use an index to distribute the value for the United States as a whole to the various states, as shown in the *Biennial Survey of Manufacturers*. This seemed desirable because the present study included all forty-eight states over a period of eleven years.

Two sets of indices were used for this purpose. First, the total weekly circulation of newspapers printed in the English language<sup>11</sup> was taken as the basis for a series of indices for the distribution of the value of the retail sale of newspapers to the several states. Second, the total of the paid subscriptions to forty-seven nationally known magazines<sup>12</sup> was used as a basis upon which to determine the indices for distributing the total value of magazines to the various states.

Data showing the circulation of newspapers and the subscriptions to the magazines were obtainable for each year included in the present study; but, as has been mentioned, the sales value is given each two years. For the even-numbered years, that is, 1922, 1924, 1926, 1928, and 1930, the sales value for the country as a whole was assumed to be the average of the year immediately preceding and

<sup>11</sup> Various issues of *Editor and Publisher*, New York.

<sup>12</sup> *Ibid.*

TABLE 24  
EVASION OF ORDINARY RETAIL SALES TAX, IN THOUSANDS OF DOLLARS

State	Stores with Annual Sales, in 1929, of					
	\$50,000 or More		\$30,000 to \$49,999		\$20,000 to \$29,999	
	Sales	Evasion	Sales	Evasion	Sales	Evasion
1	2	3	4	5	6	7
Alabama .....	\$309,746	\$6,195	\$75,691	\$2,271	\$47,932	\$2,397

the year immediately following the given year. For 1932 the sales value of newspapers and of periodicals was assumed to show the same variation from the 1931 values as was shown in the variation from 1931 in the number of sales of newspapers or in the number of paid subscriptions to periodicals.

The two parts of the ordinary retail sales tax, that is, (1) the sale of tangible goods except newspapers and periodicals and (2) the sale of these latter articles, were combined to obtain the total net tax base.

Since data pertaining to the total value of retail sales are obtainable for 1929 only, it is necessary to apply to the 1929 data an index which will give data for the other years included in this study, 1922 to 1932. In making the estimates for the New York State Tax Commission, Shoup used the experience of department stores as shown by net sales. It was decided that the best available index for purposes of the present study was the index of department store sales by Federal Reserve districts as furnished by the Federal Reserve Board.<sup>13</sup>

The question now arises: What tax rate should be applied to the net tax base? This question is answered as follows by the Committee of the National Tax Association:

The rate of the retail sales tax should be moderate. A tax of 1 per cent, effective six months after the enactment of the law, would give merchants an opportunity to turn their present stock, and, when restocking, to purchase such kinds and qualities of goods as would permit them to pass along the tax with the least possible difficulty.<sup>14</sup>

<sup>13</sup> The index for the Kansas City district was not given for 1922 and 1923. It was observed, however, that the index for the Kansas City district during subsequent years was very similar to the index for the St. Louis district. The index for the St. Louis district, therefore, was also applied for the Kansas City district during 1922 and 1923.

<sup>14</sup> National Tax Association, *Second Report of a Plan of a Model System of State and Local Taxation* (1933), pp. 63-64.

TABLE 24 (Continued)

State	Stores with Annual Sales, in 1929, of				
	\$10,000 to \$19,999		\$5,000 to \$9,999		Total Evasion
	Sales	Evasion	Sales	Evasion	
8	9	10	11	12	13
Alabama .....	\$52,478	\$5,248	\$24,767	\$4,953	\$21,064

A tax of 2 per cent would make the retailer's task somewhat more difficult, and make the consumer somewhat more sensitive of the burden it imposed; but the difference would probably not be great enough to change materially the conclusions above stated. In the view of the Committee, a tax of 1 per cent is preferable if the rate can be set at that figure; and a tax of 2 per cent is reasonable if more revenue is required.

A rate of more than 2 per cent probably increases more than proportionally the difficulties of the merchant and the burden upon the consumer. . . . Upon all grounds we consider it desirable that the rate of the retail sales tax should not exceed 2 per cent.<sup>15</sup>

An examination of the recommendations of other tax experts shows rather general agreement with the foregoing statements of the National Tax Association. For purposes of this study, therefore, two tax rates have been used, 1 per cent and 2 per cent. Table 25 shows the tax revenue thus determined. For further explanations see the footnotes to Table 25.

#### THE "LUXURY TAX"

As mentioned at the beginning of this chapter, the "luxury tax" has five parts. The first part to be considered here is the tobacco tax.

In order to determine the total retail sales of tobacco products in the various states, data on the physical output of the United States for various classes and types of tobacco, as furnished by the United States Treasury Department,<sup>16</sup> were multiplied by prevailing unit prices. The total was then, first, prorated to the several states on a per capita basis, and, second, adjusted according to the income of the people in the various states in 1919 to 1921.<sup>17</sup> These deductions

<sup>15</sup> *Ibid.*, p. 64.

<sup>16</sup> United States Treasury Department, *Annual Report of the Commissioner of Internal Revenue*.

<sup>17</sup> Maurice Leven and Willford I. King, *Income in the Various States* (1926), pp. 262-65.

TABLE 25

THE RETAIL SALES TAX, IN THOUSANDS OF DOLLARS, 1922-1932

State	1922				1923		
	Net Tax Base	Net Tax Yield at		Net Tax Base	Net Tax Yield at		
		1%	2%		1%	2%	
1	2	3	4	5	6	7	
Alabama .....	\$ 402,678	\$ 10,445	\$ 14,472	\$ 447,855	\$ 11,322	\$ 15,800	
Arizona .....	123,700	2,450	3,687	142,823	2,761	4,189	
Arkansas .....	300,666	7,830	10,836	334,224	8,493	11,836	
California .....	2,044,347	34,932	55,375	2,363,530	39,387	63,023	
Colorado .....	362,233	7,085	10,708	402,512	7,721	11,746	
Connecticut ....	610,765	11,160	17,267	650,783	11,941	18,449	
Delaware .....	88,454	1,622	2,506	98,115	1,765	2,746	
Florida .....	387,149	7,026	10,897	430,475	7,800	12,105	
Georgia .....	488,135	12,848	17,730	542,770	13,940	19,367	
Idaho .....	106,463	2,558	3,622	122,936	2,848	4,078	
Illinois .....	2,442,613	47,979	72,405	2,875,043	53,900	82,651	
Indiana .....	793,461	17,464	25,398	933,778	19,453	28,791	
Iowa .....	620,144	13,933	20,135	729,622	15,423	22,719	
Kansas .....	562,782	11,258	16,886	625,277	12,200	18,453	
Kentucky .....	440,145	11,254	15,656	489,361	12,161	17,054	
Louisiana .....	356,700	8,909	12,476	396,513	9,644	13,609	
Maine .....	243,105	4,973	7,404	259,073	5,272	7,862	
Maryland .....	442,501	9,447	13,872	498,890	10,336	15,325	
Massachusetts ..	1,675,243	31,074	47,827	1,784,571	33,101	50,946	
Michigan .....	1,459,954	27,589	42,188	1,719,628	31,235	48,432	
Minnesota .....	1,040,264	18,273	28,675	1,106,909	19,475	30,544	
Mississippi .....	298,612	7,703	10,689	332,086	8,357	11,678	
Missouri .....	1,101,408	21,780	32,794	1,223,357	23,602	35,835	
Montana .....	239,423	4,374	6,768	254,945	4,709	7,259	
Nebraska .....	435,032	8,656	13,007	483,460	9,398	14,232	
Nevada .....	31,798	636	954	36,728	707	1,075	
New Hampshire ..	144,751	2,950	4,397	154,229	3,125	4,668	
New Jersey .....	1,286,677	24,502	37,369	1,387,919	26,398	40,277	
New Mexico .....	86,816	1,941	2,809	92,653	2,071	2,997	
New York .....	5,042,434	89,688	140,113	5,437,603	96,211	150,587	
North Carolina ..	453,345	11,700	16,234	511,331	12,801	17,915	
North Dakota ..	226,511	4,136	6,401	241,138	4,377	6,789	
Ohio .....	2,243,795	42,646	65,084	2,576,317	47,435	73,198	
Oklahoma .....	600,824	12,456	18,465	667,889	13,617	20,296	
Oregon .....	287,090	5,845	8,716	331,554	6,486	9,801	
Pennsylvania ...	3,336,636	63,526	96,893	3,700,155	69,194	106,195	
Rhode Island ...	254,358	4,813	7,356	271,011	5,446	7,856	
South Carolina ...	204,416	6,675	8,719	230,308	7,248	9,551	
South Dakota ...	246,019	4,468	6,928	261,930	4,756	7,376	
Tennessee .....	499,591	11,518	16,514	555,385	12,483	18,037	
Texas .....	1,475,413	29,600	44,354	1,574,300	31,686	47,429	
Utah .....	123,188	2,662	3,894	142,268	2,959	4,381	
Vermont .....	118,423	2,287	3,472	126,183	2,422	3,684	
Virginia .....	416,720	10,938	15,105	469,616	11,924	16,620	
Washington ....	486,160	10,040	14,901	561,538	11,147	16,763	
West Virginia ...	317,401	7,915	11,089	357,862	8,509	12,087	
Wisconsin .....	802,843	16,723	24,752	945,122	18,883	28,334	
Wyoming .....	78,710	1,563	2,350	87,517	1,716	2,591	
United States ...	\$35,829,896	\$711,850	\$1,070,149	\$39,969,092	\$777,545	\$1,177,236	

The procedure used to obtain the net tax base for each year has been explained in the text.

The net tax yield as shown in Table 25 consists of (1) the tax revenue from the ordinary retail sales tax at 1 per cent or at 2 per cent according to the title of the column and (2) the "luxury" as shown in Table 26. That is, in order to obtain column 3 in 1922, a 1 per cent tax rate was applied to column 2 and the



TABLE 25 (Continued)

State	1924				1925			
	Net Tax Base	Net Tax Yield at		Net Tax Base	Net Tax Yield at			
		1%	2%		1%	2%		
8	9	10	11	12	13	14		
Alabama .....	\$ 438,714	\$ 11,389	\$ 15,776	\$ 456,981	\$ 11,653	\$ 16,223		
Arizona .....	147,381	2,887	4,361	156,324	3,035	4,599		
Arkansas .....	330,914	8,588	11,897	345,950	8,805	12,264		
California .....	2,439,381	40,886	65,280	2,586,794	42,902	68,770		
Colorado .....	405,607	7,857	11,913	426,935	8,135	12,403		
Connecticut .....	663,682	12,255	18,892	677,143	12,518	19,290		
Delaware .....	96,205	1,762	2,724	98,160	1,794	2,775		
Florida .....	422,024	7,922	12,143	440,403	8,217	12,621		
Georgia .....	531,628	14,036	19,353	553,774	14,366	19,903		
Idaho .....	126,819	2,952	4,220	134,513	3,075	4,430		
Illinois .....	2,849,110	54,276	82,767	2,993,847	56,131	86,070		
Indiana .....	925,036	19,558	28,809	972,254	20,135	29,857		
Iowa .....	722,621	15,424	22,650	759,328	15,803	23,397		
Kansas .....	629,940	12,319	18,618	663,014	12,673	19,303		
Kentucky .....	484,635	12,240	17,087	509,447	12,540	17,635		
Louisiana .....	388,426	9,677	13,562	404,640	9,897	13,944		
Maine .....	264,238	5,356	7,999	269,679	5,426	8,123		
Maryland .....	509,153	10,559	15,650	534,706	10,885	16,232		
Massachusetts ..	1,819,225	33,746	51,939	1,855,840	34,276	52,835		
Michigan .....	1,704,299	31,641	48,684	1,791,473	32,896	50,810		
Minnesota .....	1,107,014	19,701	30,771	1,140,950	20,177	31,586		
Mississippi .....	325,338	8,406	11,660	338,848	8,607	11,996		
Maryland .....	1,211,031	23,619	35,730	1,272,362	24,287	37,010		
Montana .....	254,943	4,817	7,367	262,682	4,970	7,597		
Nebraska .....	486,973	9,522	14,391	512,561	9,826	14,951		
Nevada .....	37,864	726	1,104	40,178	757	1,159		
New Hampshire ..	157,312	3,171	4,744	160,509	3,209	4,814		
New Jersey .....	1,430,623	27,250	41,556	1,516,747	28,406	43,574		
New Mexico .....	96,472	2,136	3,100	100,306	2,187	3,190		
New York .....	5,604,424	98,653	154,697	5,941,571	102,558	161,973		
North Carolina ..	522,077	13,138	18,359	548,187	13,531	19,013		
North Dakota ..	241,145	4,393	6,804	248,513	4,464	6,949		
Ohio .....	2,550,824	47,868	73,376	2,604,808	48,858	74,906		
Oklahoma .....	672,855	13,905	20,633	708,597	14,415	21,500		
Oregon .....	342,121	6,676	10,097	362,943	6,939	10,569		
Pennsylvania .....	3,627,909	69,255	105,534	3,702,703	70,439	107,526		
Rhode Island .....	276,302	5,266	8,029	282,001	5,364	8,184		
South Carolina ..	235,275	7,420	9,773	246,940	7,599	10,069		
South Dakota .....	261,978	4,801	7,421	269,955	4,905	7,604		
Tennessee .....	544,162	12,506	17,947	566,718	12,792	18,459		
Texas .....	1,639,501	32,845	49,240	1,704,681	33,816	50,863		
Utah .....	146,716	3,052	4,519	155,661	3,174	4,730		
Vermont .....	128,696	2,458	3,745	131,279	2,488	3,801		
Virginia .....	479,404	12,200	16,994	503,462	12,537	17,571		
Washington .....	579,225	11,484	17,277	614,335	11,937	18,081		
West Virginia ...	365,446	8,741	12,395	383,666	9,026	12,862		
Wisconsin .....	936,574	19,023	28,388	984,316	19,633	29,476		
Wyoming .....	88,199	1,755	2,637	92,796	1,824	2,752		
United States ...	\$40,249,446	\$790,117	\$1,192,612	\$42,029,417	\$813,937	\$1,234,231		

value of the "luxury" tax as shown in column 7 of Table 26 was added to this product. In the case of Alabama in 1922 this would mean \$402,678 times .02 plus \$6,418 or \$10,445. The same procedure was followed to obtain column 4 of Table 25, except a 2 per cent tax rate was used.

If it is desired to know the amount of tax revenue which would have been available to the states under the ordinary retail sales tax provided the "luxury" tax had not been levied, the data may be obtained by

TABLE 25 (Continued)

State	1926				1927			
	Net Tax Base	Net Tax Yield at		Net Tax Base	Net Tax Yield at			
		1%	2%		1%	2%		
15	16	17	18	19	20	21		
Alabama .....	\$ 474,925	\$ 12,298	\$ 17,048	\$ 479,460	\$ 12,627	\$ 17,422		
Arizona .....	163,879	3,242	4,881	168,391	3,379	5,063		
Arkansas .....	354,864	9,260	12,808	348,041	9,409	12,890		
California .....	2,710,313	45,442	72,544	2,784,437	47,084	74,929		
Colorado .....	405,857	8,172	12,230	406,251	8,328	12,392		
Connecticut ....	697,475	13,115	20,088	703,882	13,439	20,478		
Delaware .....	99,236	1,849	2,843	95,341	1,843	2,797		
Florida .....	459,255	8,774	13,366	463,025	9,074	13,704		
Georgia .....	575,287	15,174	20,927	580,951	15,597	21,406		
Idaho .....	140,985	3,273	4,684	144,855	3,492	4,850		
Illinois .....	3,167,436	59,492	91,166	3,195,499	60,786	92,741		
Indiana .....	1,028,398	21,300	31,584	1,037,443	21,756	32,131		
Iowa .....	802,934	16,640	24,669	810,060	16,930	25,030		
Kansas .....	630,286	12,668	18,971	630,465	12,854	19,158		
Kentucky .....	519,357	13,083	18,276	509,906	13,250	18,349		
Louisiana .....	420,361	10,417	14,619	424,542	10,673	14,919		
Maine .....	277,693	5,646	8,423	280,334	5,752	8,556		
Maryland .....	550,594	11,377	16,883	540,505	11,480	16,885		
Massachusetts ..	1,910,638	35,745	54,851	1,929,120	36,492	55,783		
Michigan .....	1,895,106	35,046	53,997	1,912,213	35,956	55,078		
Minnesota .....	1,107,831	20,409	31,488	1,085,996	20,548	31,408		
Mississippi .....	352,071	9,096	12,615	355,483	9,361	12,916		
Missouri .....	1,297,241	25,149	38,122	1,272,978	25,256	37,986		
Montana .....	255,008	5,088	7,639	250,008	5,170	7,670		
Nebraska .....	487,276	9,844	14,717	487,177	10,003	14,874		
Nevada .....	42,100	796	1,217	43,268	824	1,256		
New Hampshire ..	165,340	3,340	4,995	166,880	3,399	5,068		
New Jersey .....	1,575,779	30,604	46,362	1,604,528	30,800	46,846		
New Mexico ....	105,161	2,309	3,359	102,397	2,328	3,352		
New York .....	6,174,744	107,410	169,159	6,288,839	110,082	172,971		
North Carolina ..	564,739	14,272	19,920	554,478	14,533	20,078		
North Dakota ..	241,300	4,493	6,905	236,555	4,500	6,865		
Ohio .....	2,630,112	50,651	76,953	2,629,993	51,645	77,945		
Oklahoma .....	673,681	14,593	21,331	673,993	14,944	21,684		
Oregon .....	380,147	7,311	11,113	390,550	7,547	11,453		
Pennsylvania ...	3,742,239	72,976	110,399	3,596,279	72,811	108,774		
Rhode Island ....	290,498	5,620	8,524	293,114	5,753	8,684		
South Carolina ..	254,221	8,018	10,560	249,601	8,186	10,682		
South Dakota ...	262,057	4,962	7,583	256,742	4,992	7,560		
Tennessee .....	588,645	13,453	19,340	594,654	13,777	19,723		
Texas .....	1,788,248	35,827	53,709	1,740,453	36,102	53,506		
Utah .....	163,076	3,363	4,993	167,569	3,481	5,136		
Vermont .....	135,251	2,590	3,943	136,504	2,633	3,998		
Virginia .....	518,454	13,183	18,368	508,987	13,392	18,482		
Washington ....	643,757	12,598	19,035	661,275	13,008	19,620		
West Virginia ...	395,101	9,505	13,456	387,961	9,671	13,550		
Wisconsin .....	1,041,108	20,809	31,220	1,050,456	21,280	31,784		
Wyoming .....	88,177	1,846	2,728	88,163	1,888	2,769		
United States ...	\$43,248,241	\$852,128	\$1,284,611	\$43,319,602	\$868,025	\$1,301,221		

multiplying the net tax base for any given year or state as shown in Table 25 by the tax rate under consideration. That is, if it is desired to know the amount of tax revenue which Alabama, say, could have collected under a retail sales tax at 1 per cent in 1922, provided the "luxury" tax was not included, multiply the data for Alabama in column 2 by .01, i.e., point off two decimal places in column 2. The answer is \$4,027,000.

TABLE 25 (Continued)

State	1928				1929			
	Net Tax Base	Net Tax Yield at		Net Tax Base	Net Tax Yield at			
		1%	2%		1%	2%		
22	23	24	25	26	27	28		
Alabama .....	\$ 479,669	\$ 12,920	\$ 17,716	\$ 466,444	\$ 13,308	\$ 17,973		
Arizona .....	174,386	3,533	5,277	178,904	3,469	5,258		
Arkansas .....	351,255	9,667	13,180	354,907	9,653	13,202		
California .....	2,882,520	48,989	77,814	2,956,774	54,883	84,450		
Colorado .....	414,377	8,567	12,711	427,008	8,605	12,875		
Connecticut ....	690,926	13,573	20,483	704,510	13,652	20,697		
Delaware .....	93,444	1,848	2,783	93,457	1,866	2,800		
Florida .....	462,751	9,346	13,973	449,715	9,488	13,985		
Georgia .....	581,258	15,967	21,779	565,114	15,273	20,924		
Idaho .....	149,931	3,541	5,041	153,757	3,266	4,803		
Illinois .....	3,398,560	63,843	97,828	3,458,328	66,253	100,837		
Indiana .....	1,103,550	22,780	33,816	1,122,646	23,590	34,826		
Iowa .....	861,539	17,662	26,278	876,493	18,318	27,083		
Kansas .....	643,746	13,166	19,604	663,732	13,785	20,423		
Kentucky .....	514,728	13,560	18,708	519,979	14,135	19,335		
Louisiana .....	424,656	10,891	15,137	412,972	11,510	15,639		
Maine .....	275,192	5,775	8,527	280,507	5,951	8,756		
Maryland .....	545,544	11,740	17,196	565,899	12,203	17,862		
Massachusetts ..	1,893,521	36,697	55,632	1,930,009	37,464	56,764		
Michigan .....	2,033,729	37,939	58,277	2,069,821	39,658	60,357		
Minnesota .....	1,008,866	20,137	30,225	964,182	19,439	29,081		
Mississippi .....	355,664	9,596	13,152	345,686	9,836	13,293		
Missouri .....	1,284,359	25,713	38,556	1,297,440	26,711	39,686		
Montana .....	232,280	4,419	6,742	222,006	4,359	6,579		
Nebraska .....	497,364	10,270	15,243	512,669	10,490	15,616		
Nevada .....	44,757	851	1,298	45,911	881	1,340		
New Hampshire ..	163,754	3,410	5,048	166,925	3,544	5,214		
New Jersey .....	1,618,750	31,550	47,738	1,691,535	33,535	50,451		
New Mexico ....	104,380	2,395	3,439	106,380	2,554	3,618		
New York .....	6,344,214	112,161	175,603	6,629,269	120,787	187,079		
North Carolina ..	559,990	14,963	20,563	580,854	16,207	22,015		
North Dakota ..	219,704	4,385	6,582	209,968	4,512	6,611		
Ohio .....	2,606,864	52,433	78,501	2,657,303	52,996	79,569		
Oklahoma .....	688,317	15,436	22,319	709,836	15,794	22,893		
Oregon .....	404,260	7,810	11,852	414,600	8,222	12,368		
Pennsylvania ...	3,523,480	73,390	108,625	3,524,470	73,773	109,017		
Rhode Island ...	287,698	5,808	8,685	293,176	5,828	8,760		
South Carolina ...	252,032	8,425	10,946	261,421	8,349	10,963		
South Dakota ...	238,559	4,898	7,283	227,992	4,841	7,121		
Tennessee .....	595,195	14,046	19,998	578,759	14,548	20,335		
Texas .....	1,773,552	37,206	54,942	1,806,749	39,281	57,349		
Utah .....	173,463	3,616	5,350	177,907	3,638	5,417		
Vermont .....	133,901	2,641	3,980	136,550	2,724	4,090		
Virginia .....	513,951	13,753	18,893	533,194	13,751	19,083		
Washington .....	684,560	13,478	20,323	702,301	13,736	20,759		
West Virginia ...	391,694	9,950	13,867	406,166	10,294	14,355		
Wisconsin .....	1,117,422	22,327	33,502	1,136,775	22,830	34,198		
Wyoming .....	90,019	1,954	2,854	92,848	1,915	2,844		
United States ...	\$43,884,340	\$889,025	\$1,327,869	\$44,683,848	\$921,714	\$1,368,553		

TABLE 25 (Continued)

State	1930				1931			
	Net Tax Base	Net Tax Yield at		Net Tax Base	Net Tax Yield at			
		1%	2%		1%	2%		
29	30	31	32	33	34	35		
Alabama .....	\$ 426,264	\$ 12,916	\$ 17,178	\$ 377,263	\$ 11,304	\$ 15,076		
Arizona .....	168,633	3,384	5,071	149,088	3,004	4,495		
Arkansas .....	317,955	9,263	12,442	286,028	8,131	10,992		
California .....	2,785,811	53,717	81,575	2,465,530	48,286	72,942		
Colorado .....	397,202	8,303	12,275	350,463	7,355	10,859		
Connecticut ....	664,444	13,269	19,914	674,655	12,638	19,384		
Delaware .....	86,701	1,790	2,657	76,054	1,574	2,334		
Florida .....	410,916	9,190	13,299	363,865	8,158	11,796		
Louisiana .....	516,425	14,716	19,881	457,100	12,812	17,383		
Idaho .....	144,925	3,167	4,617	128,204	2,792	4,074		
Illinois .....	3,052,535	62,285	92,811	2,591,996	54,196	80,116		
Indiana .....	990,888	22,272	32,181	841,118	19,316	27,727		
Iowa .....	773,742	17,238	24,976	565,850	14,916	21,485		
Kansas .....	617,478	13,300	19,475	544,611	11,701	17,147		
Kentucky .....	465,801	13,576	18,234	406,621	11,834	15,900		
Louisiana .....	377,337	11,177	14,951	334,089	9,852	13,193		
Maine .....	264,585	5,777	8,423	268,652	5,443	8,129		
Maryland .....	545,678	12,004	17,467	514,520	10,942	16,087		
Massachusetts ..	1,820,223	36,338	54,544	1,848,424	34,582	53,067		
Michigan .....	1,826,738	37,421	55,689	1,549,983	32,627	48,127		
Minnesota .....	952,249	19,294	28,816	852,319	17,123	25,646		
Mississippi .....	315,855	9,539	12,697	279,559	8,326	11,121		
Missouri .....	1,162,337	25,315	36,939	1,015,319	22,177	32,330		
Montana .....	219,228	4,313	6,506	196,134	3,824	5,786		
Nebraska .....	476,712	10,114	14,881	420,504	8,921	13,126		
Nevada .....	43,286	858	1,291	38,343	764	1,148		
New Hampshire ..	157,368	3,440	5,013	159,805	3,245	4,843		
New Jersey .....	1,633,943	33,093	49,433	1,504,198	30,036	45,078		
New Mexico .....	96,702	2,461	3,428	81,397	2,126	2,940		
New York .....	6,403,571	118,760	182,795	5,896,273	107,813	166,775		
North Carolina ..	560,055	16,065	21,665	527,836	14,443	19,722		
North Dakota ..	207,375	4,478	6,552	185,504	3,952	5,807		
Ohio .....	2,373,965	50,217	73,956	2,067,321	44,181	64,855		
Oklahoma .....	660,872	15,338	21,946	582,785	13,526	19,354		
Oregon .....	390,594	8,007	11,913	345,500	7,138	10,593		
Pennsylvania ...	3,268,312	71,163	103,846	2,868,570	62,684	91,369		
Rhode Island ...	276,482	5,666	8,431	280,794	5,389	8,197		
South Carolina ...	252,071	8,227	10,747	237,603	7,309	9,685		
South Dakota ...	225,224	4,807	7,060	201,470	4,256	6,270		
Tennessee .....	529,156	14,058	19,349	468,681	12,327	17,014		
Texas .....	1,643,493	37,796	54,231	1,382,710	32,732	46,559		
Utah .....	167,633	3,535	5,212	148,251	3,114	4,597		
Vermont .....	128,769	2,639	3,924	130,829	2,490	3,799		
Virginia .....	514,221	13,524	18,666	484,661	12,142	16,988		
Washington ....	661,704	13,343	19,960	585,365	11,870	17,723		
West Virginia ...	391,536	10,170	14,086	369,336	9,200	12,894		
Wisconsin .....	1,003,270	21,491	31,523	831,583	18,636	27,152		
Wyoming .....	86,332	1,854	2,718	76,134	1,646	2,408		
United States ...	\$41,456,596	\$890,668	\$1,305,234	\$37,123,889	\$792,853	\$1,164,092		

TABLE 25 (Continued)

State	1932		
	Net Tax Base	Net Tax Yield at	
		1%	2%
36	37	38	39
Alabama .....	\$ 287,629	\$ 9,452	\$ 12,328
Arizona .....	113,800	2,483	3,621
Arkansas .....	212,719	6,722	8,849
California .....	1,885,007	40,172	59,022
Colorado .....	272,938	6,162	8,892
Connecticut .....	475,411	9,990	14,744
Delaware .....	60,371	1,311	1,924
Florida .....	277,659	6,761	9,537
Georgia .....	348,706	10,657	14,144
Idaho .....	97,929	2,314	3,294
Illinois .....	1,953,097	44,667	64,198
Indiana .....	634,055	15,985	22,325
Iowa .....	494,944	12,332	17,282
Kansas .....	423,941	9,758	13,998
Kentucky .....	311,989	9,917	13,037
Louisiana .....	255,010	8,281	10,831
Maine .....	189,187	4,327	6,219
Maryland .....	415,857	9,297	13,455
Massachusetts ....	1,304,394	27,344	40,388
Michigan .....	1,167,204	26,919	38,591
Minnesota .....	677,546	14,377	21,153
Mississippi .....	213,030	6,941	9,072
Missouri .....	780,393	18,408	26,212
Montana .....	155,795	3,205	4,763
Nebraska .....	327,484	7,457	10,732
Nevada .....	29,311	637	930
New Hampshire ...	112,600	2,587	3,713
New Jersey .....	1,179,825	25,158	36,956
New Mexico .....	61,474	1,767	2,381
New York .....	4,629,280	89,726	136,019
North Carolina ....	426,178	12,277	16,539
North Dakota ....	147,321	3,313	4,786
Ohio .....	1,532,436	36,211	51,536
Oklahoma .....	453,648	11,328	15,865
Oregon .....	264,314	5,944	8,587
Pennsylvania .....	2,277,791	52,865	75,643
Rhode Island .....	197,961	4,276	6,255
South Carolina ....	191,848	6,214	8,133
South Dakota ....	159,995	3,576	5,176
Tennessee .....	357,780	10,262	13,840
Texas .....	1,043,313	27,125	37,558
Utah .....	113,238	2,570	3,703
Vermont .....	92,101	1,961	2,882
Virginia .....	391,616	10,304	14,220
Washington .....	447,469	9,859	14,334
West Virginia .....	298,255	7,834	10,817
Wisconsin .....	641,601	15,371	21,787
Wyoming .....	59,271	1,383	1,975
United States .....	\$28,444,721	\$657,797	\$942,246

were made: evasion, 10 per cent; a drop in consumption due to the tax, 10 per cent; and 5 per cent for extra cost of collecting the tax. A 20 per cent tax rate was applied to the net tax base to determine the gross tax yield for the several states during each of the eleven years included in this study. The result thus secured is the net tax yield, as shown in Table 26.

Table 26 shows the net tax yield from the tax on soft drinks. These figures were arrived at by combining the sales value of (1) fountain beverages, (2) bottled carbonated drinks, and (3) bottled "still" drinks. The sales values were obtained in the following manner.

The amount spent in the United States for soft drinks at soda fountains, excluding bottled drinks, during the years included in this study, has been furnished by a trade journal, *The Soda Fountain*.

Data concerning the number of half-pint bottles of carbonated beverages consumed in the United States have been furnished by the American Bottlers of Carbonated Beverages. This number was multiplied by the usual retail price per half-pint of five cents to arrive at the retail value of such sales.

The *Biennial Census of Manufactures* for the odd-numbered years from 1921 to 1931 furnishes data on the production of cereal beverages, "still" beverages other than grape juice, and grape juice. Because of the rapid turnover and direct selling by manufacturers, a mark-up of only 33 per cent was allowed by Shoup, in his study, in order to determine the retail sales value of these articles. The present study uses the same mark-up value.

The retail sales values of the three parts of the tax on soft drinks—fountain sales, carbonated beverages, and "still" beverages—were then combined to obtain the figures for the total retail sales of soft drinks. Four allowances were subtracted from these results: (1) 30 per cent of the total value for possible duplication and overestimate in the basic data; (2) 5 per cent for possible check in consumption due to the tax; (3) 10 per cent for illegal evasion of the tax; and (4) 5 per cent for extra cost of collecting the tax. This gives a total deduction of 50 per cent. To this net tax base a tax rate of 20 per cent was applied to arrive at the net tax yield, and the result was prorated to the various states on a per capita population basis.

The net tax yield from a tax on patent and proprietary medicines is shown in Table 26. The basic data are taken from the *Biennial Census of Manufactures*, which gives the value at the factory of

TABLE 26

TAX REVENUE FROM THE "LUXURY TAX," IN THOUSANDS OF DOLLARS,  
1922-1932

State	1922					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
1	2	3	4	5	6	7
Alabama .....	\$ 3,402	\$ 1,738	\$ 616	\$ 356	\$ 306	\$ 6,418
Arizona .....	638	269	95	163	48	1,213
Arkansas .....	2,573	1,302	461	257	230	4,823
California .....	7,445	2,700	956	2,911	476	14,488
Colorado .....	1,735	708	251	644	125	3,463
Connecticut .....	2,651	1,053	373	789	186	5,052
Delaware .....	391	165	58	93	30	737
Florida .....	1,684	801	284	244	141	3,154
Georgia .....	4,294	2,149	761	384	379	7,967
Idaho .....	766	334	118	216	59	1,493
Illinois .....	12,491	4,859	1,721	3,625	857	23,553
Indiana .....	4,927	2,161	766	1,264	381	9,599
Iowa .....	3,924	1,738	616	1,148	306	7,732
Kansas .....	2,952	1,290	457	704	227	5,630
Kentucky .....	3,647	1,769	627	498	312	6,853
Louisiana .....	2,777	1,327	470	534	234	5,342
Maine .....	1,325	559	198	361	99	2,542
Maryland .....	2,640	1,079	382	731	190	5,022
Massachusetts .....	7,658	2,875	1,019	2,263	507	14,322
Michigan .....	6,709	2,831	1,003	1,947	499	12,989
Minnesota .....	4,055	1,788	643	1,078	315	7,870
Mississippi .....	2,539	1,323	469	153	233	4,717
Missouri .....	5,652	2,477	878	1,322	437	10,766
Montana .....	1,026	433	153	292	76	1,980
Nebraska .....	2,152	957	339	689	169	4,306
Nevada .....	156	58	20	73	10	317
New Hampshire .....	763	322	114	246	57	1,502
New Jersey .....	6,133	2,410	854	1,814	425	11,636
New Mexico .....	575	267	94	90	47	1,073
New York .....	21,696	7,741	2,742	5,720	1,365	39,264
North Carolina .....	3,857	1,922	681	368	339	7,167
North Dakota .....	990	464	164	171	82	1,871
Ohio .....	10,349	4,368	1,547	3,174	770	20,208
Oklahoma .....	3,370	1,543	547	716	272	6,448
Oregon .....	1,453	589	209	619	104	2,974
Pennsylvania .....	16,100	6,515	2,308	4,088	1,149	30,160
Rhode Island .....	1,196	461	163	368	81	2,269
South Carolina .....	2,483	1,250	443	235	220	4,631
South Dakota .....	1,056	474	168	226	84	2,008
Tennessee .....	3,466	1,718	609	426	303	6,522
Texas .....	7,851	3,528	1,250	1,595	622	14,846
Utah .....	766	341	121	142	60	1,430
Vermont .....	583	255	90	130	45	1,103
Virginia .....	3,584	1,718	609	557	303	6,771
Washington .....	2,561	1,025	363	1,048	181	5,178
West Virginia .....	2,432	1,108	393	462	346	4,741
Wisconsin .....	4,649	1,962	695	1,194	195	8,695
Wyoming .....	399	151	53	146	27	776
United States .....	\$186,521	\$78,875	\$27,942	\$46,304	\$13,909	\$353,551

TABLE 26 (Continued)

State	1923					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
	8	9	10	11	12	13
Alabama .....	\$ 3,693	\$ 1,798	\$ 664	\$ 360	\$ 328	\$ 6,843
Arizona .....	716	288	106	171	52	1,333
Arkansas .....	2,798	1,349	498	260	246	5,151
California .....	8,288	2,865	1,057	3,020	522	15,752
Colorado .....	1,896	738	272	656	134	3,696
Connecticut .....	2,914	1,103	407	808	201	5,433
Delaware .....	425	171	63	94	31	784
Florida .....	1,901	862	318	257	157	3,495
Georgia .....	4,668	2,227	822	389	406	8,512
Idaho .....	849	353	130	223	64	1,619
Illinois .....	13,627	5,053	1,865	3,685	920	25,150
Indiana .....	5,342	2,234	824	1,308	407	10,115
Iowa .....	4,217	1,780	657	1,149	324	8,127
Kansas .....	3,184	1,326	489	707	241	5,947
Kentucky .....	3,940	1,822	672	501	332	7,207
Louisiana .....	3,011	1,372	506	540	250	5,679
Maine .....	1,427	574	212	363	105	2,681
Maryland .....	2,871	1,118	413	741	204	5,347
Massachusetts .....	8,333	2,983	1,101	2,295	543	15,255
Michigan .....	7,411	2,981	1,100	2,004	543	14,039
Minnesota .....	4,425	1,860	686	1,096	339	8,406
Mississippi .....	2,758	1,369	505	155	249	5,036
Missouri .....	6,092	2,545	939	1,328	464	11,368
Montana .....	1,143	460	170	303	84	2,160
Nebraska .....	2,333	989	365	696	180	4,563
Nevada .....	172	60	22	75	11	340
New Hampshire .....	823	331	122	247	60	1,583
New Jersey .....	6,743	2,526	932	1,858	460	12,519
New Mexico .....	625	276	102	91	50	1,144
New York .....	23,593	8,024	2,961	5,796	1,461	41,835
North Carolina .....	4,212	2,000	738	374	364	7,688
North Dakota .....	1,060	474	175	171	86	1,966
Ohio .....	11,348	4,505	1,685	3,243	831	21,672
Oklahoma .....	3,701	1,615	596	732	294	6,938
Oregon .....	1,588	613	226	631	112	3,170
Pennsylvania .....	17,544	6,767	2,497	4,151	1,233	32,192
Rhode Island .....	1,312	482	178	376	88	2,436
South Carolina .....	2,698	1,295	478	238	236	4,945
South Dakota .....	1,147	491	181	229	89	2,137
Tennessee .....	3,750	1,772	654	430	323	6,929
Texas .....	8,600	3,684	1,360	1,628	671	15,943
Utah .....	839	356	131	145	65	1,536
Vermont .....	625	261	96	130	48	1,160
Virginia .....	3,899	1,782	658	564	325	7,228
Washington .....	2,804	1,069	395	1,069	195	5,532
West Virginia .....	2,664	1,157	427	471	211	4,930
Wisconsin .....	5,062	2,036	751	1,212	371	9,432
Wyoming .....	443	159	59	151	29	841
United States .....	\$203,514	\$82,015	\$30,265	\$47,121	\$14,939	\$377,854



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TABLE 26 (Continued)

State	1924					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
15	16	17	18	19	20	21
Alabama .....	\$ 3,696	\$ 1,904	\$ 681	\$ 365	\$ 356	\$ 7,002
Arizona .....	744	317	113	180	59	1,413
Arkansas .....	2,805	1,431	512	264	267	5,279
California .....	8,529	3,119	1,115	3,146	583	16,492
Colorado .....	1,914	788	282	670	147	3,801
Connecticut .....	2,959	1,185	423	830	221	5,618
Delaware .....	425	181	65	95	34	800
Florida .....	1,971	946	338	270	177	3,702
Georgia .....	4,678	2,362	844	395	441	8,720
Idaho .....	866	381	136	230	71	1,684
Illinois .....	13,719	5,382	1,924	3,755	1,005	25,785
Indiana .....	5,338	2,362	844	1,323	441	10,308
Iowa .....	4,170	1,863	666	1,151	348	8,198
Kansas .....	3,159	1,392	498	710	260	6,019
Kentucky .....	3,924	1,920	686	505	359	7,394
Louisiana .....	3,008	1,450	518	546	271	5,793
Maine .....	1,417	603	216	365	113	2,714
Maryland .....	2,881	1,187	424	753	222	5,467
Massachusetts .....	8,346	3,161	1,130	2,327	590	15,554
Michigan .....	7,559	3,218	1,150	2,070	601	14,598
Minnesota .....	4,455	1,981	708	1,117	370	8,631
Mississippi .....	2,758	1,449	518	157	271	5,153
Missouri .....	6,048	2,673	955	1,334	499	11,509
Montana .....	1,178	501	179	316	94	2,268
Nebraska .....	2,332	1,046	374	705	195	4,652
Nevada .....	172	64	23	76	12	347
New Hampshire .....	814	347	124	248	65	1,598
New Jersey .....	6,845	2,713	970	1,909	507	12,944
New Mexico .....	626	293	105	92	55	1,171
New York .....	23,615	8,497	3,037	5,873	1,587	42,609
North Carolina .....	4,243	2,132	762	382	398	7,917
North Dakota .....	1,046	495	177	171	92	1,981
Ohio .....	11,487	4,889	1,748	3,323	913	22,360
Oklahoma .....	3,751	1,732	619	751	323	7,176
Oregon .....	1,601	654	234	644	122	3,255
Pennsylvania .....	17,637	7,198	2,573	4,224	1,344	32,976
Rhode Island .....	1,324	515	184	384	96	2,503
South Carolina .....	2,704	1,373	491	242	257	5,067
South Dakota .....	1,147	519	186	232	97	2,181
Tennessee .....	3,741	1,871	669	434	349	7,064
Texas .....	8,696	3,942	1,409	1,667	736	16,450
Utah .....	848	381	136	149	71	1,585
Vermont .....	619	273	98	130	51	1,171
Virginia .....	3,912	1,892	676	573	353	7,406
Washington .....	2,833	1,143	409	1,093	214	5,692
West Virginia .....	2,693	1,238	442	482	231	5,086
Wisconsin .....	5,084	2,164	773	1,232	404	9,657
Wyoming .....	452	172	61	156	32	873
United States .....	\$204,769	\$87,299	\$31,205	\$48,046	\$16,304	\$387,623

TABLE 26 (Continued)

State	1925					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
22	23	24	25	26	27	28
Alabama .....	\$ 3,738	\$ 1,904	\$ 688	\$ 369	\$ 384	\$ 7,083
Arizona .....	775	326	118	187	66	1,472
Arkansas .....	2,839	1,432	518	267	289	5,345
California .....	8,809	3,184	1,151	3,248	642	17,034
Colorado .....	1,947	792	286	681	160	3,866
Connecticut .....	3,025	1,198	433	849	242	5,747
Delaware .....	431	181	66	97	37	812
Florida .....	2,030	963	348	278	194	3,813
Georgia .....	4,735	2,363	854	399	477	8,828
Idaho .....	889	387	140	236	78	1,730
Illinois .....	13,934	5,404	1,953	3,812	1,090	26,193
Indiana .....	5,391	2,358	852	1,335	476	10,412
Iowa .....	4,176	1,844	666	1,152	372	8,210
Kansas .....	3,171	1,381	499	713	279	6,043
Kentucky .....	3,951	1,911	691	508	385	7,446
Louisiana .....	3,038	1,447	523	551	292	5,851
Maine .....	1,425	600	217	366	121	2,729
Maryland .....	2,918	1,188	430	762	240	5,538
Massachusetts .....	8,433	3,157	1,141	2,350	637	15,718
Michigan .....	7,756	3,264	1,180	2,123	658	14,081
Minnesota .....	4,524	1,989	719	1,134	401	8,767
Mississippi .....	2,792	1,451	524	159	293	5,210
Missouri .....	6,075	2,654	959	1,340	535	11,563
Montana .....	1,217	512	185	326	103	2,343
Nebraska .....	2,356	1,044	378	711	211	4,700
Nevada .....	176	65	23	78	13	355
New Hampshire .....	818	344	124	249	69	1,604
New Jersey .....	7,000	2,743	991	1,952	553	13,239
New Mexico .....	633	293	106	93	59	1,184
New York .....	23,907	8,503	3,074	5,943	1,715	43,142
North Carolina .....	4,313	2,142	774	388	432	8,049
North Dakota .....	1,045	488	177	170	99	1,979
Ohio .....	11,716	4,930	1,782	3,388	994	22,810
Oklahoma .....	3,830	1,748	632	767	353	7,330
Oregon .....	1,628	657	238	654	133	3,310
Pennsylvania .....	17,894	7,219	2,609	4,284	1,456	33,462
Rhode Island .....	1,346	517	187	390	104	2,544
South Carolina .....	2,737	1,374	497	245	277	5,130
South Dakota .....	1,159	519	188	234	105	2,205
Tennessee .....	3,772	1,865	674	438	376	7,125
Texas .....	8,863	3,971	1,436	1,698	801	16,769
Utah .....	865	384	139	152	77	1,617
Vermont .....	621	271	98	130	55	1,175
Virginia .....	3,961	1,894	685	580	382	7,502
Washington .....	2,884	1,150	416	1,112	232	5,794
West Virginia .....	2,746	1,248	451	492	252	5,189
Wisconsin .....	5,153	2,168	784	1,248	437	9,790
Wyoming .....	464	174	63	160	35	896
United States .....	\$207,906	\$87,601	\$31,667	\$48,798	\$17,671	\$393,643

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TABLE 26 (Continued)

State	1926					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
	29	30	31	32	33	35
Alabama .....	\$ 3,897	\$ 2,176	\$ 705	\$ 373	\$ 399	\$ 7,550
Arizona .....	831	383	124	105	70	1,603
Arkansas .....	2,967	1,641	531	271	301	5,711
California .....	9,382	3,718	1,204	3,353	681	18,338
Colorado .....	2,045	912	295	694	167	4,113
Connecticut .....	3,188	1,383	448	867	253	6,130
Delaware .....	448	207	67	98	38	828
Florida .....	2,182	1,135	367	280	208	4,181
Georgia .....	4,942	2,704	876	404	495	9,421
Idaho .....	943	450	146	243	82	1,864
Illinois .....	14,595	6,205	2,009	3,871	1,137	27,817
Indiana .....	5,612	2,691	872	1,348	493	11,016
Iowa .....	4,312	2,087	676	1,153	382	8,610
Kansas .....	3,285	1,569	508	716	287	6,365
Kentucky .....	4,101	2,174	704	512	368	7,889
Louisiana .....	3,164	1,653	535	557	303	6,212
Maine .....	1,475	681	220	368	125	2,869
Maryland .....	3,048	1,361	441	772	249	5,871
Massachusetts .....	8,810	3,615	1,171	2,380	662	16,638
Michigan .....	8,210	3,787	1,226	2,178	694	16,095
Minnesota .....	4,738	2,284	740	1,151	418	9,331
Mississippi .....	2,913	1,659	537	161	304	5,574
Missouri .....	6,291	3,013	976	1,345	552	12,177
Montana .....	1,298	599	194	338	110	2,539
Nebraska .....	2,455	1,193	386	719	219	4,972
Nevada .....	184	74	24	79	14	375
New Hampshire .....	848	391	127	250	72	1,688
New Jersey .....	7,742	3,325	1,077	2,093	609	14,846
New Mexico .....	659	334	108	94	61	1,256
New York .....	24,972	9,737	3,153	6,018	1,784	45,664
North Carolina .....	4,521	2,462	797	394	451	8,625
North Dakota .....	1,077	552	179	170	101	2,079
Ohio .....	12,326	5,686	1,841	3,456	1,042	24,351
Oklahoma .....	4,033	2,018	653	783	370	7,857
Oregon .....	1,707	755	245	605	138	3,510
Pennsylvania .....	18,727	8,282	2,682	4,346	1,517	35,554
Rhode Island .....	1,417	597	193	398	109	2,714
South Carolina .....	2,858	1,573	509	248	288	5,476
South Dakota .....	1,210	594	192	237	109	2,342
Tennessee .....	3,922	2,126	689	441	389	7,567
Texas .....	9,317	4,577	1,482	1,730	838	17,944
Utah .....	910	443	143	155	81	1,732
Vermont .....	643	308	100	131	56	1,238
Virginia .....	4,140	2,170	703	588	398	7,999
Washington .....	3,030	1,325	429	1,133	243	6,160
West Virginia .....	2,886	1,438	466	501	263	5,554
Wisconsin .....	5,388	2,485	805	1,265	455	10,398
Wyoming .....	493	203	66	165	37	964
United States .....	\$218,142	\$100,735	\$32,621	\$49,696	\$18,452	\$419,646

TABLE 26 (Continued)

State	1927					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
36	37	38	39	40	41	42
Alabama .....	\$ 3,072	\$ 2,347	\$ 723	\$ 376	\$ 415	\$ 7,833
Arizona .....	866	423	130	201	75	1,695
Arkansas .....	3,026	1,771	546	273	313	5,929
California .....	9,735	4,082	1,258	3,444	721	19,240
Colorado .....	2,095	989	305	703	175	4,267
Connecticut .....	3,281	1,506	464	883	266	6,400
Delaware .....	458	224	69	99	40	890
Florida .....	2,281	1,255	387	299	222	4,444
Georgia .....	5,043	2,920	900	408	516	9,787
Idaho .....	974	492	152	248	87	1,953
Illinois .....	14,034	6,718	2,071	3,921	1,187	28,831
Indiana .....	5,717	2,900	804	1,359	512	11,382
Iowa .....	4,360	2,233	688	1,154	394	8,829
Kansas .....	3,331	1,683	519	719	297	6,549
Kentucky .....	4,166	2,337	720	515	413	8,151
Louisiana .....	3,222	1,781	549	561	315	6,428
Maine .....	1,466	730	225	369	129	2,949
Maryland .....	3,112	1,470	453	780	260	6,075
Massachusetts .....	8,995	3,906	1,204	2,406	690	17,201
Michigan .....	8,471	4,134	1,274	2,225	730	16,834
Minnesota .....	4,849	2,473	762	1,167	437	9,688
Mississippi .....	2,978	1,795	553	163	317	5,806
Missouri .....	6,377	3,232	996	1,350	571	12,526
Montana .....	1,347	657	203	347	116	2,670
Nebraska .....	2,499	1,285	396	724	227	5,131
Nevada .....	190	81	25	81	14	391
New Hampshire .....	858	419	129	250	74	1,730
New Jersey .....	7,596	3,452	1,064	2,033	610	14,755
New Mexico .....	673	361	111	95	64	1,304
New York .....	25,494	10,518	3,242	6,082	1,858	47,194
North Carolina .....	4,629	2,667	822	399	471	8,988
North Dakota .....	1,088	590	182	170	104	2,134
Ohio .....	12,659	6,178	1,904	3,513	1,091	25,345
Oklahoma .....	4,147	2,195	677	797	388	8,204
Oregon .....	1,750	819	253	675	145	3,642
Pennsylvania .....	19,145	8,959	2,762	4,399	1,583	36,848
Rhode Island .....	1,454	648	200	405	115	2,822
South Carolina .....	2,917	1,699	524	250	300	5,690
South Dakota .....	1,234	641	198	239	113	2,425
Tennessee .....	3,989	2,288	705	444	404	7,830
Texas .....	9,560	4,969	1,532	1,758	878	18,697
Utah .....	934	481	148	157	85	1,805
Vermont .....	649	329	101	131	58	1,268
Virginia .....	4,227	2,344	723	594	414	8,302
Washington .....	3,109	1,438	443	1,151	254	6,395
West Virginia .....	2,963	1,562	481	509	276	5,791
Wisconsin .....	5,595	2,687	828	1,280	475	10,775
Wyoming .....	599	222	68	168	39	1,006
United States .....	\$222,864	\$108,890	\$33,563	\$50,274	\$19,238	\$434,829

TABLE 26 (Continued)

State	1928					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
	43	44	45	46	47	48
Alabama .....	\$ 4,022	\$ 2,519	\$ 788	\$ 380	\$ 414	\$ 8,123
Arizona .....	897	464	145	207	76	1,789
Arkansas .....	3,068	1,903	595	276	313	6,155
California .....	10,036	4,400	1,395	3,540	733	20,104
Colorado .....	2,133	1,667	334	714	175	4,423
Connecticut .....	3,353	1,632	511	900	268	6,664
Delaware .....	462	239	75	99	39	914
Florida .....	2,368	1,381	432	310	227	4,718
Georgia .....	5,110	3,135	981	412	516	10,154
Idaho .....	999	534	167	254	88	2,042
Illinois .....	15,186	7,240	2,265	3,975	1,191	29,857
Indiana .....	5,782	3,109	973	1,370	511	11,745
Iowa .....	4,379	2,377	744	1,156	391	9,047
Kansas .....	3,355	1,796	562	711	295	6,729
Kentucky .....	4,203	2,499	782	518	411	8,413
Louisiana .....	3,258	1,909	597	566	314	6,644
Maine .....	1,504	778	243	370	128	3,023
Maryland .....	3,159	1,582	495	789	260	6,285
Massachusetts .....	9,125	4,199	1,314	2,433	691	17,762
Michigan .....	8,688	4,494	1,406	2,275	739	17,602
Minnesota .....	4,930	2,664	834	1,182	438	10,048
Mississippi .....	3,023	1,930	604	165	317	6,039
Missouri .....	6,420	3,448	1,079	1,355	567	12,869
Montana .....	1,039	534	168	267	88	2,096
Nebraska .....	2,529	1,378	431	731	227	5,296
Nevada .....	193	87	27	82	14	403
New Hampshire .....	863	446	140	251	73	1,773
New Jersey .....	7,766	3,740	1,170	2,072	615	15,363
New Mexico .....	682	388	121	96	64	1,351
New York .....	25,858	11,306	3,537	6,149	1,859	48,719
North Carolina .....	4,709	2,876	900	405	473	9,363
North Dakota .....	1,092	627	196	170	103	2,188
Ohio .....	12,918	6,682	2,091	3,574	1,099	26,364
Oklahoma .....	4,233	2,375	743	811	391	8,553
Oregon .....	1,779	883	276	684	145	3,767
Pennsylvania .....	19,450	9,646	3,018	4,455	1,586	38,155
Rhode Island .....	1,484	701	219	412	115	2,931
South Carolina .....	2,956	1,825	571	253	300	5,905
South Dakota .....	1,252	689	216	242	113	2,512
Tennessee .....	4,029	2,449	766	447	403	8,094
Texas .....	9,750	5,371	1,680	1,787	883	19,471
Utah .....	953	520	163	160	85	1,881
Vermont .....	653	350	110	131	58	1,302
Virginia .....	4,288	2,521	789	601	415	8,614
Washington .....	3,169	1,553	486	1,169	255	6,632
West Virginia .....	3,021	1,688	528	518	278	6,033
Wisconsin .....	5,588	2,891	904	1,295	475	11,153
Wyoming .....	523	242	76	173	40	1,054
United States .....	\$226,237	\$117,127	\$36,647	\$50,902	\$19,259	\$450,182

TABLE 26 (Continued)

State	1920					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
50	51	52	53	54	55	56
Alabama .....	\$ 4,273	\$ 2,718	\$ 847	\$ 387	\$ 419	\$ 8,644
Arizona .....	844	443	138	187	68	1,680
Arkansas .....	3,037	1,913	597	262	295	6,104
California .....	12,662	5,711	1,780	4,283	879	25,315
Colorado .....	2,099	1,666	332	674	164	4,335
Connecticut .....	3,334	1,647	514	858	254	6,607
Delaware .....	471	248	77	97	38	931
Florida .....	2,504	1,483	462	314	228	4,991
Georgia .....	4,833	3,012	939	374	464	9,622
Idaho .....	847	460	143	207	71	1,728
Illinois .....	16,155	7,818	2,437	4,056	1,204	31,670
Indiana .....	6,102	3,332	1,039	1,387	513	12,373
Iowa .....	4,635	2,555	796	1,174	393	9,553
Kansas .....	3,568	1,940	605	736	299	7,148
Kentucky .....	4,460	2,693	840	577	415	8,935
Louisiana .....	3,620	2,154	671	603	332	7,380
Maine .....	1,568	824	257	370	127	3,146
Maryland .....	3,297	1,676	523	790	258	6,544
Massachusetts .....	9,361	4,373	1,303	2,394	673	18,164
Michigan .....	9,381	4,927	1,536	2,357	759	18,960
Minnesota .....	4,815	2,643	824	1,108	407	9,797
Mississippi .....	3,184	2,066	644	167	318	6,379
Missouri .....	6,862	3,743	1,167	1,389	576	13,737
Montana .....	1,061	557	174	261	86	2,139
Nebraska .....	2,568	1,421	443	712	219	5,363
Nevada .....	203	93	29	83	14	422
New Hampshire .....	915	481	150	255	74	1,875
New Jersey .....	8,426	4,120	1,284	2,156	634	16,620
New Mexico .....	752	434	135	102	67	1,490
New York .....	29,010	12,873	4,013	6,616	1,982	54,494
North Carolina .....	5,220	3,238	1,010	431	499	10,398
North Dakota .....	1,203	702	219	180	108	2,412
Ohio .....	12,983	6,818	2,126	3,446	1,050	26,423
Oklahoma .....	4,307	2,454	765	792	378	8,696
Oregon .....	1,934	975	304	713	150	4,076
Pennsylvania .....	19,680	9,909	3,089	4,324	1,526	38,528
Rhode Island .....	1,471	705	220	391	109	2,896
South Carolina .....	2,866	1,797	560	235	277	5,735
South Dakota .....	1,277	714	223	237	110	2,561
Tennessee .....	4,355	2,689	838	464	414	8,760
Texas .....	10,629	5,946	1,854	1,869	916	21,214
Utah .....	942	522	163	152	80	1,859
Vermont .....	683	372	116	131	57	1,359
Virginia .....	4,189	2,501	780	564	385	8,419
Washington .....	3,222	1,604	500	1,140	247	6,713
West Virginia .....	3,123	1,771	552	513	273	6,232
Wisconsin .....	5,754	3,022	942	1,279	465	11,462
Wyoming .....	492	231	72	156	36	987
United States .....	\$239,177	\$125,394	\$39,092	\$51,903	\$19,310	\$474,876

TABLE 26 (Continued)

State	1930					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
57	58	59	60	61	62	63
Alabama .....	\$ 4,223	\$ 2,893	\$ 763	\$ 391	\$ 383	\$ 8,653
Arizona .....	842	476	126	101	63	1,668
Arkansas .....	2,988	2,028	535	263	269	6,083
California .....	12,781	6,207	1,638	4,411	822	25,859
Colorado .....	2,071	1,132	299	679	150	4,331
Connecticut .....	3,303	1,757	464	868	233	6,625
Delaware .....	461	261	69	97	35	923
Florida .....	2,517	1,605	424	322	213	5,081
Georgia .....	4,737	3,180	839	375	421	9,552
Idaho .....	832	487	128	207	64	1,718
Illinois .....	16,010	8,343	2,201	4,101	1,105	31,760
Indiana .....	6,022	3,541	934	1,307	469	12,363
Iowa .....	4,552	2,702	713	1,176	358	9,501
Kansas .....	3,513	2,057	543	739	273	7,125
Kentucky .....	4,396	2,859	754	530	379	8,918
Louisiana .....	3,586	2,298	606	610	304	7,404
Maine .....	1,542	872	230	371	116	3,131
Maryland .....	3,259	1,784	471	797	236	6,547
Massachusetts .....	9,238	4,646	1,226	2,410	616	18,136
Michigan .....	9,362	5,294	1,397	2,399	702	19,154
Minnesota .....	4,743	2,803	740	1,114	371	9,771
Mississippi .....	3,145	2,197	580	167	291	6,380
Missouri .....	6,756	3,968	1,047	1,395	526	13,692
Montana .....	1,039	588	155	261	78	2,121
Nebraska .....	2,528	1,507	397	715	200	5,347
Nevada .....	202	100	26	84	13	425
New Hampshire .....	900	599	134	256	67	1,866
New Jersey .....	8,393	4,419	1,166	2,191	585	16,754
New Mexico .....	745	463	122	103	61	1,494
New York .....	28,804	13,763	3,631	6,702	1,824	54,724
North Carolina .....	5,188	3,466	914	437	459	10,464
North Dakota .....	1,184	744	196	181	99	2,404
Ohio .....	12,850	7,267	1,917	3,480	963	26,477
Oklahoma .....	4,270	2,620	691	801	347	8,729
Oregon .....	1,922	1,043	275	723	138	4,101
Pennsylvania .....	19,423	10,530	2,778	4,354	1,395	38,480
Rhode Island .....	1,456	752	198	395	100	2,901
South Carolina .....	2,815	1,901	502	236	252	5,706
South Dakota .....	1,259	758	200	238	100	2,555
Tennessee .....	4,303	2,861	755	468	379	8,766
Texas .....	10,572	6,368	1,680	1,897	844	21,361
Utah .....	931	555	146	153	74	1,859
Vermont .....	670	393	104	132	52	1,351
Virginia .....	4,119	2,648	699	565	351	8,382
Washington .....	3,189	1,709	451	1,151	226	6,726
West Virginia .....	3,095	1,891	499	519	251	6,255
Wisconsin .....	5,682	3,213	848	1,289	426	11,458
Wyoming .....	488	247	65	158	33	991
United States .....	\$236,906	\$133,705	\$35,276	\$52,499	\$17,716	\$476,102

106 *Economic Ability of States to Finance Public Schools*

TABLE 26 (Continued)

State	1931					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
64	65	66	67	68	69	70
Alabama .....	\$ 3,836	\$ 2,274	\$ 679	\$ 394	\$ 348	\$ 7,531
Arizona .....	771	377	113	194	58	1,513
Arkansas .....	2,702	1,587	474	265	243	5,271
California .....	11,853	4,983	1,489	4,543	763	23,631
Colorado .....	1,877	880	265	683	136	3,850
Connecticut .....	3,005	1,384	413	877	212	5,891
Delaware .....	418	205	61	98	31	813
Florida .....	2,325	1,283	383	331	197	4,519
Georgia .....	4,267	2,479	740	375	380	8,241
Idaho .....	751	380	114	207	58	1,510
Illinois .....	14,580	6,576	1,965	4,148	1,007	28,276
Indiana .....	5,462	2,780	830	1,407	426	10,905
Iowa .....	4,107	2,110	630	1,178	323	8,348
Kansas .....	3,176	1,610	481	744	246	6,255
Kentucky .....	3,982	2,241	669	533	343	7,768
Louisiana .....	3,265	1,811	541	617	277	6,511
Maine .....	1,393	682	204	373	104	2,756
Maryland .....	2,958	1,402	419	803	215	5,797
Massachusetts .....	8,376	3,647	1,089	2,427	559	16,098
Michigan .....	8,584	4,202	1,255	2,443	643	17,127
Minnesota .....	4,293	2,196	656	1,119	336	8,600
Mississippi .....	2,855	1,726	516	169	264	5,530
Missouri .....	6,111	3,107	928	1,402	476	12,024
Montana .....	937	458	137	261	70	1,863
Nebraska .....	2,286	1,170	352	718	181	4,716
Nevada .....	183	78	23	85	12	381
New Hampshire .....	813	398	119	257	60	1,647
New Jersey .....	7,683	3,501	1,046	2,228	536	14,994
New Mexico .....	678	365	109	104	56	1,312
New York .....	26,278	10,869	3,247	6,791	1,665	48,850
North Carolina .....	4,741	2,741	819	444	420	9,165
North Dakota .....	1,070	582	174	182	89	2,097
Ohio .....	11,687	5,721	1,799	3,515	876	23,508
Oklahoma .....	3,890	2,065	617	810	316	7,698
Oregon .....	1,754	824	246	733	126	3,683
Pennsylvania .....	17,613	8,265	2,469	4,385	1,266	33,998
Rhode Island .....	1,323	591	177	399	91	2,581
South Carolina .....	2,541	1,485	444	236	227	4,933
South Dakota .....	1,140	594	177	239	91	2,241
Tennessee .....	3,906	2,248	671	471	344	7,640
Texas .....	9,664	5,038	1,505	1,926	772	18,905
Utah .....	845	436	130	154	67	1,632
Vermont .....	604	307	92	132	47	1,182
Virginia .....	3,711	2,071	619	567	317	7,295
Washington .....	2,900	1,345	402	1,163	206	6,016
West Virginia .....	2,819	1,490	445	525	228	5,507
Wisconsin .....	5,156	2,524	754	1,299	387	10,120
Wyoming .....	444	194	58	159	30	885
United States .....	\$215,623	\$105,500	\$31,455	\$53,111	\$16,125	\$421,614



TABLE 26 (Continued)

State	1932					
	Tobacco Products	Soft Drinks	Patent and Proprietary Medicines	Admis- sions	Chewing Gum	Total
71	72	73	74	75	76	77
Alabama .....	\$ 3,374	\$ 1,933	\$ 577	\$ 306	\$ 296	\$ 6,576
Arizona .....	683	321	96	106	49	1,345
Arkansas .....	2,371	1,349	403	265	207	4,595
California .....	10,552	4,236	1,205	4,620	649	21,322
Colorado .....	1,650	755	226	686	116	3,433
Connecticut .....	2,647	1,176	351	882	180	5,236
Delaware .....	366	174	52	98	27	717
Florida .....	2,065	1,091	326	335	167	3,984
Georgia .....	3,736	2,107	629	375	323	7,170
Idaho .....	659	323	96	208	49	1,335
Illinois .....	12,845	5,590	1,670	4,175	856	25,136
Indiana .....	4,800	2,363	706	1,413	362	9,644
Iowa .....	3,599	1,793	536	1,180	275	7,383
Kansas .....	2,788	1,368	409	744	210	5,519
Kentucky .....	3,496	1,905	569	535	292	6,797
Louisiana .....	2,876	1,539	460	620	236	5,731
Maine .....	1,221	579	173	373	89	2,435
Maryland .....	2,602	1,191	356	807	182	5,138
Massachusetts .....	7,362	3,100	926	2,437	475	14,300
Michigan .....	7,593	3,571	1,067	2,469	547	15,247
Minnesota .....	3,769	1,866	558	1,123	286	7,602
Mississippi .....	2,511	1,467	438	170	225	4,811
Missouri .....	5,364	2,641	789	1,406	404	10,604
Montana .....	820	390	116	261	60	1,647
Nebraska .....	2,007	1,002	299	720	154	4,182
Nevada .....	162	67	20	85	10	344
New Hampshire .....	713	338	101	257	52	1,461
New Jersey .....	6,790	2,976	889	2,249	456	13,360
New Mexico .....	597	310	93	105	47	1,152
New York .....	23,177	9,239	2,760	6,842	1,415	43,433
North Carolina .....	4,185	2,330	696	447	357	8,015
North Dakota .....	939	495	148	182	76	1,840
Ohio .....	10,290	4,863	1,453	3,536	745	20,887
Oklahoma .....	3,427	1,756	524	816	269	6,792
Oregon .....	1,547	700	209	738	107	3,301
Pennsylvania .....	15,483	7,025	2,099	4,404	1,076	30,087
Rhode Island .....	1,165	503	150	401	77	2,296
South Carolina .....	2,227	1,262	377	237	193	4,296
South Dakota .....	1,002	595	151	241	77	1,976
Tennessee .....	3,435	1,911	571	474	293	6,684
Texas .....	8,532	4,283	1,279	1,942	656	16,692
Utah .....	744	371	111	155	57	1,438
Vermont .....	529	261	78	132	40	1,040
Virginia .....	3,264	1,760	526	568	270	6,388
Washington .....	2,553	1,144	342	1,170	175	5,384
West Virginia .....	2,484	1,267	378	529	194	4,852
Wisconsin .....	4,535	2,145	641	1,395	329	8,955
Wyoming .....	391	165	49	160	25	790
United States .....	\$189,927	\$89,506	\$26,738	\$53,469	\$13,712	\$373,352

patent or proprietary medicines, not including the "ethical specialties." Accurate comparable data for the value of imports and exports are not readily available, but in the study for the New York State Tax Commission, Shoup said, the error was thought to be small by taking the data for "preparations in capsules, etc.," and "preparations not specifically provided for" as the value of imports. The figures for exports include the data for "tonics," "other medical preparations for internal use," and "other non-coal-tar medical and pharmaceutical preparations." The figures for exports were subtracted from the value of patent and proprietary medicines and those for imports were added to it to obtain the figures for domestic consumption in the United States. A mark-up value of 80 per cent was then allowed in order to obtain the retail sales value. A 10 per cent deduction was allowed for drop in consumption due to the tax, and 5 per cent for extra cost of collecting the tax. The remainder was prorated to the states on a per capita population basis, the results being the net tax base.

In making the study for New York, Shoup gave considerable study to whether or not the consumption of such medicines in New York was above the per capita consumption for the other states. In the first study he made calculations on both bases; but in his later study he concluded that the consumption of patent and proprietary medicines in New York was probably not above the average for the various states, since marketing specialists report a heavy per capita consumption of such medicines in rural districts. This latter factor tends to offset New York's increased buying power per person. A 20 per cent tax rate was applied to the net tax base.

Table 26 shows the tax yield on the admissions tax. The procedure was, first, to multiply the Federal tax data on total admissions in the various states for the year 1920-1921—the last year in which the total admissions tax of the Federal Government was operative—by the per cent of population increase or decrease since that date. Second, a series of indices which represent the portion of the total admissions in the several states paid on admissions of forty cents or less was applied to these data. These indices were derived by a comparison of yields of the admissions tax under varying Federal rates, 1923-1925. Deductions of 5 per cent for illegal evasion, 5 per cent for drop in attendance due to the tax, and 5 per cent for extra cost of collecting the tax were made. A 10 per cent tax rate was applied to the result which gave the net tax yield.

The tax yield from a special tax on chewing gum is shown in Table 26. The total retail value of chewing gum is furnished by the United States Bureau of the Census in the *Biennial Survey of Manufacturers*. The total sales value for the United States was distributed to the states on a per capita population basis after having allowed a deduction of 5 per cent for the extra cost of collecting the tax. A tax of 20 per cent was applied to the foregoing results to obtain the net tax yield.

#### TOTAL NET TAX YIELD FROM THE RETAIL SALES TAX

The total tax yield of the sales tax, that is, the tax on the retail sales of ordinary tangible personal goods plus the "luxury tax," for the years 1922 to 1932, is shown in Table 25, under the heading "Net Tax Yield." The figures were obtained by, first, multiplying the "Net Tax Base" for any given year by a 1 per cent or a 2 per cent tax rate, according to the rate selected and, second, adding to the results just secured the tax yield of the "luxury tax" as shown in Table 26.

## CHAPTER VII

### FINANCIAL RETURNS UNDER A SYSTEM OF STATE AND LOCAL TAXATION BASED ON THE MODEL TAX PLAN

IN CHAPTERS II to VI, the various taxes have been discussed and the tax revenue which would have accrued to the various states under each has been determined. The purpose of this chapter is to consolidate this information. It will present a composite picture of the potential tax revenue which would have been available to the states under the tax plan used in this study as well as a picture of the proportion of the total tax burden which would have been borne in the various states by each of the various taxes. The relative ability of the states to raise tax revenue under this system of taxation will be presented.

As is pointed out in Chapter VI, the sales tax is not recommended as a permanent part of the Model Tax Plan. The present investigator does not advocate a sales tax as a permanent part of a tax plan. It was thought advisable, however, to show, first, the ability of the states to raise tax revenue under a system of taxation based on the Model Tax Plan, second, the ability of the states to raise tax revenue under this plan supplemented by a retail sales tax at 1 per cent and at 2 per cent. The tax revenue which would have accrued to the several states under the sales tax from year to year was shown in Chapter VI. Therefore, the data presented in this chapter will show, first, the ability of the states to raise tax revenue each year under the tax plan used in this study, second, the ability of the states to raise tax revenue over the eleven-year period 1922 to 1932, inclusive, under each of the alternatives previously mentioned.

The data presented in Table 27 show the potential tax-raising ability of the various states from 1922 to 1932. The data are obtained by adding the tax revenue which would have accrued to the various states from each part of the tax plan, as shown in Chapters II to VI.

According to the data presented in Table 28, the rank of the

states varied only slightly from year to year. Before calling attention to certain items in Table 28, it is probably well to explain the method of obtaining the data and the general purpose of the table. If the total state and local tax revenue in the forty-eight states is considered as a base of 100.00, the per cent of total tax revenue which each state would have collected can be determined. The index for Alabama for 1922, .83, was calculated by finding the per cent which the data for Alabama, as shown in column 19 of Table 27, are of the total at the bottom of column 19.

The percentages from year to year (see Table 28) show whether the tax revenue in each state under the tax plan used in the present study increased or decreased more than such tax revenue for the average of the country. In order to facilitate the comparison, the figure for the United States was held constant, that is, 100.00. If a given state had the same experience as the country generally, its percentage would remain constant (or relatively so).

Table 28 shows that, with certain exceptions, the tax revenue possibilities of the states increase or decrease in approximately the same way as the average for the country. However, certain exceptions may be noted. The percentage for Delaware in 1929 is interesting. Why did the percentage jump from .22 in 1928 to .30 in 1929 and then settle back to .22 during the following years? An examination of the cause of such a variation reveals the highly fluctuating character of the inheritance tax. By referring to Table 27 it can be seen that Delaware could have collected the following amounts of inheritance tax during the specified years: 1927, \$512,000; 1928, \$581,000; 1929, \$5,477,000; and 1930, \$416,000.

The "boom" years of 1925 and 1926 in Florida are reflected in Table 28. The percentage of tax revenue in Florida rose from .84 in 1924 to 1.00 in 1925 and 1.05 in 1926. It then fell back to .93 in 1927, .90 in 1928, and .85 in 1929. An examination of the data in Table 27 is helpful in showing the foregoing condition in another way. The personal income tax collections in Florida under the tax system used in the present study were as follows for the years 1922 to 1929: \$1,708,000, \$2,062,000, \$2,297,000, \$3,986,000, \$4,320,000, \$3,142,000, \$2,670,000, and \$2,592,000. The amount of business tax in Florida for those years was: \$3,901,000, \$4,586,000, \$5,528,000; \$10,339,000, \$7,863,000, \$5,454,000, \$5,202,000, and \$5,375,000.

The index for Rhode Island in 1929 calls attention to a situation

TABLE

ABILITY OF THE VARIOUS STATES TO RAISE TAX REVENUE UNDER A

State	Personal Income	Property	Business	Supplementary	
				Inherit- ance	Motor Fuel
				5	6
1	2	3	4	5	6
Alabama .....	\$ 28,259	\$ 363,801	\$ 65,832	\$ 1,563	\$ 40,198
Arizona .....	10,815	168,049	22,678	318	13,745
Arkansas .....	21,308	327,844	52,683	309	27,900
California .....	341,046	1,897,717	413,740	45,172	283,436
Colorado .....	26,026	397,887	67,750	2,857	35,666
Connecticut .....	106,047	777,300	115,118	17,529	50,367
Delaware .....	13,551	85,480	15,649	7,731	7,614
Florida .....	30,533	351,632	58,419	8,391	61,635
Georgia .....	31,146	404,212	87,340	2,538	53,373
Idaho .....	5,402	182,178	24,880	186	11,978
Illinois .....	304,952	3,084,400	575,125	46,912	220,575
Indiana .....	88,720	1,212,298	162,015	4,371	101,887
Iowa .....	95,629	1,409,292	128,100	2,356	81,022
Kansas .....	37,727	853,119	101,420	1,207	68,368
Kentucky .....	36,764	438,967	86,871	2,903	38,187
Louisiana .....	41,605	406,337	76,231	2,161	43,213
Maine .....	24,815	271,620	45,149	5,735	23,176
Maryland .....	80,047	510,802	111,245	9,184	39,819
Massachusetts .....	281,427	1,852,546	359,197	53,412	115,731
Michigan .....	177,554	1,595,427	273,535	22,255	168,279
Minnesota .....	67,850	1,151,726	132,863	8,264	83,021
Mississippi .....	15,106	262,755	46,619	376	30,892
Missouri .....	107,720	1,342,487	185,701	13,718	96,887
Montana .....	6,773	283,032	34,127	2,864	13,845
Nebraska .....	35,105	730,559	76,168	961	51,621
Nevada .....	18,310	62,298	8,264	415	3,928
New Hampshire .....	11,534	188,697	29,321	2,446	14,287
New Jersey .....	283,040	1,627,525	283,037	46,606	119,430
New Mexico .....	4,617	102,602	16,806	174	10,627
New York .....	1,581,376	5,176,200	1,256,171	262,975	297,444
North Carolina .....	40,323	587,883	82,467	4,616	61,136
North Dakota .....	6,351	326,034	29,903	66	18,084
Ohio .....	260,216	2,689,707	391,829	25,621	218,453
Oklahoma .....	52,586	489,086	100,081	1,527	67,768
Oregon .....	22,125	454,116	60,195	1,824	36,551
Pennsylvania .....	483,239	4,028,515	667,873	95,301	224,018
Rhode Island .....	39,733	268,256	48,912	12,490	18,859
South Carolina .....	12,544	294,828	46,255	782	28,780
South Dakota .....	8,022	409,506	32,264	182	21,024
Tennessee .....	33,494	574,734	86,629	1,872	45,933
Texas .....	114,665	1,281,714	262,225	6,612	175,743
Utah .....	7,484	194,213	25,239	316	13,218
Vermont .....	8,137	104,502	20,271	607	10,621
Virginia .....	39,003	653,378	87,793	3,825	49,431
Washington .....	41,652	733,045	109,541	1,620	57,004
West Virginia .....	38,763	711,632	70,110	2,045	29,894
Wisconsin .....	65,901	1,052,933	156,687	5,878	93,475
Wyoming .....	4,342	90,032	18,282	198	8,366
United States .....	\$5,283,484	\$42,552,912	\$7,202,610	\$742,331	\$3,387,409

# Financial Returns

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TAX SYSTEM BASED ON THE MODEL TAX PLAN, IN THOUSANDS, 1922-1932

1932

Taxes	Sales Tax at		If Sales Tax Is Omitted	Total	
	1%	2%		Including Sales Tax at	
Automobile License	1%	2%		1%	2%
7	8	9	10	11	12
\$ 26,212	\$ 129,634	\$ 177,012	\$ 525,865	\$ 655,499	\$ 702,877
10,128	33,627	50,502	225,733	259,360	276,235
22,008	95,821	131,196	452,052	547,873	583,248
214,950	496,680	775,724	3,196,061	3,692,741	3,971,785
31,693	86,290	129,006	561,879	648,169	690,385
38,646	137,550	209,686	1,105,916	1,243,466	1,315,602
6,316	19,034	28,889	136,341	155,375	165,230
37,793	91,756	137,426	548,403	640,159	685,820
34,059	155,386	212,797	702,668	858,054	915,465
11,534	33,188	47,703	236,158	269,346	283,861
182,887	623,808	943,590	4,504,851	5,128,659	5,448,441
96,719	223,618	327,445	1,666,010	1,889,628	1,993,455
81,899	174,619	255,704	1,798,298	1,972,917	2,054,002
59,503	135,682	202,036	1,121,404	1,257,086	1,323,440
33,502	137,550	189,271	637,194	774,744	826,465
28,502	110,928	152,880	598,049	708,977	750,929
21,026	59,698	88,421	391,521	451,219	479,942
32,399	120,270	176,908	783,496	903,766	960,404
94,603	376,859	574,572	2,757,006	3,133,865	3,331,578
136,870	368,927	560,230	2,373,920	2,742,847	2,934,150
76,908	208,953	310,393	1,521,622	1,730,575	1,841,015
22,095	95,768	130,889	377,843	473,611	508,732
79,768	262,017	391,200	1,826,281	2,088,298	2,217,481
13,969	49,248	74,676	354,610	403,858	429,286
44,443	104,501	155,770	938,857	1,043,358	1,094,627
3,402	8,437	12,772	96,617	105,054	109,389
11,868	35,420	52,517	257,953	293,373	310,470
97,101	321,332	485,640	2,456,739	2,778,071	2,942,379
7,187	24,275	34,613	142,013	166,288	176,626
267,339	1,153,849	1,797,771	8,841,505	9,995,354	10,639,276
45,297	153,930	212,023	821,722	975,652	1,033,745
18,536	47,003	71,051	398,974	445,977	470,025
189,037	525,141	789,879	3,774,863	4,300,004	4,564,742
55,131	155,352	226,286	766,179	921,531	992,465
28,057	77,925	117,062	602,868	680,793	719,930
194,046	752,126	1,123,811	5,692,992	6,445,118	6,816,803
15,932	58,929	88,061	403,582	462,511	492,543
21,729	83,670	109,828	404,918	488,588	514,746
20,441	51,262	77,382	491,439	542,701	568,821
34,002	141,770	200,556	770,664	912,434	971,220
131,131	374,016	549,740	1,972,090	2,346,106	2,521,830
11,553	35,164	51,952	252,023	287,187	303,975
9,233	27,333	41,318	153,371	180,704	194,689
40,516	137,648	190,990	873,946	1,011,594	1,064,936
48,791	132,500	198,776	991,653	1,124,153	1,190,429
28,025	100,815	141,458	880,469	981,284	1,021,927
82,667	217,006	322,116	1,457,541	1,674,547	1,779,657
6,613	19,344	28,626	127,833	147,177	156,459
\$2,806,246	\$8,965,659	\$13,368,054	\$61,973,992	\$70,939,651	\$75,342,046

TABLE 27 (Continued)

State	1922					
	Personal Income	Property	Business	Supplementary Taxes		Total
				Motor Fuel	Automobile License	
13	14	15	16	17	18	19
Alabama .....	\$ 1,663	\$ 25,993	\$ 4,915	\$ 566	\$ 993	\$ 34,130
Arizona .....	600	11,470	1,585	164	446	14,265
Arkansas .....	1,450	23,401	4,269	216	921	30,257
California .....	19,150	133,655	32,755	3,955	9,745	199,260
Colorado .....	1,960	28,652	5,129	671	1,792	38,204
Connecticut .....	5,959	53,813	8,425	717	2,008	70,922
Delaware .....	691	5,048	1,081	90	313	8,123
Florida .....	1,708	24,117	3,901	721	1,389	31,836
Georgia .....	2,173	34,712	6,729	769	1,619	46,002
Idaho .....	415	12,479	1,918	163	596	15,571
Illinois .....	26,395	221,363	47,228	2,806	9,682	307,474
Indiana .....	6,088	85,870	12,911	1,444	5,418	111,731
Iowa .....	6,952	101,762	10,487	1,201	5,366	125,768
Kansas .....	2,700	61,573	8,973	1,048	3,535	77,829
Kentucky .....	2,574	31,206	7,091	465	1,734	43,070
Louisiana .....	3,132	28,664	6,119	504	1,182	39,601
Maine .....	2,000	19,034	3,475	299	1,123	25,931
Maryland .....	6,144	35,925	8,796	523	1,868	53,256
Massachusetts .....	18,999	128,989	30,723	1,452	5,001	185,164
Michigan .....	10,081	110,684	19,610	2,283	6,624	149,282
Minnesota .....	4,968	81,998	9,695	1,361	4,270	102,301
Mississippi .....	855	18,482	3,926	440	831	24,534
Missouri .....	7,816	94,577	14,114	1,100	4,399	122,006
Montana .....	582	19,770	2,503	254	719	23,828
Nebraska .....	2,855	52,479	6,679	721	2,831	65,565
Nevada .....	1,635	4,571	654	47	146	7,053
New Hampshire ....	1,005	13,120	2,213	187	577	17,102
New Jersey .....	15,241	113,678	22,797	1,320	4,708	157,744
New Mexico .....	311	7,238	1,209	190	282	9,230
New York .....	93,717	370,861	92,951	3,783	13,748	575,060
North Carolina ....	2,705	40,224	6,811	810	2,022	52,572
North Dakota .....	416	23,989	2,070	343	1,020	27,838
Ohio .....	17,237	187,384	28,841	2,909	10,284	246,655
Oklahoma .....	3,959	35,557	8,177	935	2,689	51,317
Oregon .....	1,675	32,136	4,552	513	1,562	40,438
Pennsylvania .....	33,378	283,465	51,522	2,190	9,653	380,208
Rhode Island .....	2,925	18,739	3,773	187	884	26,508
South Carolina .....	974	20,618	3,592	444	1,016	26,644
South Dakota .....	571	28,371	2,520	509	1,330	33,801
Tennessee .....	2,324	39,745	6,184	645	1,558	50,456
Texas .....	8,194	91,317	20,311	2,455	5,729	128,006
Utah .....	575	13,574	1,806	170	579	16,704
Vermont .....	716	7,394	1,672	137	491	10,410
Virginia .....	2,995	45,486	6,771	653	1,942	57,847
Washington .....	2,832	52,038	7,429	992	2,596	65,887
West Virginia .....	2,862	49,767	5,760	404	1,213	60,006
Wisconsin .....	4,809	73,965	12,732	1,324	4,236	97,066
Wyoming .....	502	6,159	1,402	110	352	8,525
United States .....	\$339,468	\$3,006,012	\$558,786	\$45,190	\$143,031	\$4,092,487



## Financial Returns

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TABLE 27 (Continued)

State	1923					
	Personal Income	Property	Business	Supplementary Taxes		Total
				Motor Fuel	Automobile License	
20	21	22	23	24	25	26
Alabama .....	\$ 2,167	\$ 27,257	\$ 6,680	\$ 1,216	\$ 1,363	\$ 38,683
Arizona .....	657	12,541	2,192	324	571	16,285
Arkansas .....	1,828	24,565	5,186	838	1,240	33,657
California .....	25,253	142,015	22,846	8,495	12,368	210,977
Colorado .....	2,111	20,838	6,722	1,106	2,003	41,870
Connecticut .....	6,941	58,084	11,852	1,426	2,312	80,625
Delaware .....	811	6,387	1,588	194	381	9,361
Florida .....	2,062	26,247	4,586	2,389	1,767	37,051
Georgia .....	2,548	36,977	9,101	1,577	1,083	52,186
Idaho .....	423	13,594	2,460	350	690	17,517
Illinois .....	28,922	231,222	60,193	6,027	11,985	338,349
Indiana .....	7,113	90,774	17,963	3,101	6,758	125,709
Iowa .....	7,860	105,705	12,767	2,579	6,131	135,051
Kansas .....	2,967	63,990	9,902	2,251	4,053	83,163
Kentucky .....	2,945	32,875	8,085	1,102	2,215	47,222
Louisiana .....	3,404	30,410	7,613	1,222	1,581	44,229
Maine .....	1,719	20,394	4,582	642	1,282	28,619
Maryland .....	6,417	38,223	11,707	1,115	1,861	50,323
Massachusetts .....	21,086	138,490	37,198	3,120	6,228	206,122
Michigan .....	12,373	119,226	30,568	4,904	8,314	175,385
Minnesota .....	5,346	86,334	13,815	2,924	5,067	113,486
Mississippi .....	1,059	19,664	4,588	758	1,134	27,203
Missouri .....	8,921	100,448	18,878	2,362	5,322	135,931
Montana .....	595	21,165	3,443	383	849	26,435
Nebraska .....	3,036	54,767	7,747	1,548	3,166	70,264
Nevada .....	1,618	4,683	933	101	189	7,524
New Hampshire ....	1,136	14,102	3,159	402	704	19,503
New Jersey .....	17,535	121,705	29,780	2,836	5,743	177,599
New Mexico .....	330	7,681	1,501	267	355	10,134
New York .....	97,445	388,002	116,064	8,125	15,818	625,454
North Carolina ....	3,281	43,880	8,819	1,833	2,689	60,502
North Dakota .....	460	24,496	2,442	747	1,125	29,270
Ohio .....	20,268	201,081	41,585	6,249	12,750	281,933
Oklahoma .....	3,880	36,710	9,675	2,008	3,306	55,579
Oregon .....	1,908	34,002	6,154	1,102	1,852	45,018
Pennsylvania .....	37,685	301,449	70,632	4,704	12,043	426,513
Rhode Island .....	3,243	20,060	4,782	402	991	29,478
South Carolina .....	1,203	22,051	4,764	954	1,382	30,354
South Dakota .....	613	30,601	3,027	727	1,411	36,379
Tennessee .....	2,756	42,939	8,320	1,386	1,971	57,372
Texas .....	8,811	96,018	26,151	5,273	7,493	143,746
Utah .....	670	14,524	2,787	366	693	19,040
Vermont .....	809	7,824	2,129	294	592	11,648
Virginia .....	3,341	48,847	8,749	1,386	2,542	64,865
Washington .....	3,143	54,899	12,089	1,985	3,128	75,244
West Virginia .....	3,484	53,215	7,774	867	1,632	66,972
Wisconsin .....	5,489	78,779	15,934	2,845	5,096	108,043
Wyoming .....	582	6,719	2,056	236	461	10,055
United States .....	\$378,263	\$3,185,459	\$711,468	\$97,048	\$174,690	\$4,546,928

TABLE 27 (Continued)

State	1924						
	Personal Income	Prop- erty	Busi- ness	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
27	28	29	30	31	32	33	34
Alabama .....	\$ 2,280	\$ 27,101	\$ 5,767	\$..	\$ 1,800	\$ 1,721	\$ 38,669
Arizona .....	720	12,410	2,245	..	504	676	16,555
Arkansas .....	1,070	24,421	5,172	..	1,433	1,582	34,578
California .....	23,570	140,975	41,371	1	12,413	16,370	234,700
Colorado .....	2,154	29,687	6,757	1	1,786	2,372	42,757
Connecticut ....	7,465	57,545	11,566	..	2,025	2,782	81,383
Delaware .....	766	6,330	1,543	..	315	446	9,400
Florida .....	2,207	25,990	5,528	..	2,524	2,314	38,653
Georgia .....	2,548	36,692	7,782	..	3,124	2,362	52,508
Idaho .....	308	13,456	2,334	..	565	788	17,541
Illinois .....	29,203	229,988	58,010	1	9,530	13,833	340,565
Indiana .....	6,921	90,161	15,842	5	5,098	7,583	125,610
Iowa .....	8,098	105,211	11,854	..	4,078	6,636	135,877
Kansas .....	2,848	63,685	7,838	2	3,560	4,553	82,486
Kentucky .....	3,031	32,666	9,119	..	1,821	2,555	49,192
Louisiana .....	3,676	30,192	7,132	..	2,101	2,062	45,163
Maine .....	1,962	20,224	4,595	..	1,081	1,511	29,373
Maryland .....	6,417	37,935	11,642	..	1,644	2,169	59,807
Massachusetts ..	21,713	137,308	34,030	1	4,933	7,337	205,322
Michigan .....	12,602	118,168	25,995	1	7,754	9,869	174,389
Minnesota .....	5,940	85,797	12,001	..	4,623	5,502	113,863
Mississippi .....	1,232	19,511	4,470	..	1,493	1,454	28,160
Missouri .....	8,751	100,097	18,132	..	3,735	6,022	136,737
Montana .....	564	20,996	3,497	..	641	925	26,623
Nebraska .....	2,735	54,481	7,302	..	2,448	3,446	70,412
Nevada .....	1,259	4,666	920	..	168	214	7,227
New Hampshire ..	994	13,988	2,755	..	608	826	19,171
New Jersey .....	19,174	120,703	27,736	1	4,484	6,679	178,777
New Mexico .....	345	7,622	1,524	..	404	439	10,334
New York .....	121,026	385,869	121,959	6	12,848	18,558	660,266
North Carolina ..	3,310	43,428	8,352	..	3,125	3,285	61,500
North Dakota ..	442	24,438	2,622	..	917	1,222	29,641
Ohio .....	19,700	199,378	38,155	3	9,881	14,807	281,924
Oklahoma .....	3,405	36,567	9,245	..	3,175	4,036	56,428
Oregon .....	1,967	33,767	6,025	..	1,862	2,160	45,781
Pennsylvania ...	38,403	299,217	67,314	1	9,408	15,175	429,518
Rhode Island ...	3,211	19,895	4,445	..	636	1,246	29,433
South Carolina ..	1,123	21,871	4,335	..	1,508	1,758	30,595
South Dakota ...	557	30,320	3,293	..	1,247	1,543	36,940
Tennessee .....	2,675	42,544	8,139	..	1,876	2,308	57,542
Texas .....	8,723	95,434	26,163	..	8,058	8,687	147,065
Utah .....	639	14,409	2,599	..	567	793	19,007
Vermont .....	708	7,771	2,109	..	478	689	11,755
Virginia .....	3,184	48,428	8,714	..	2,286	3,091	65,703
Washington .....	3,237	54,543	12,306	..	2,728	3,573	76,387
West Virginia....	3,328	52,789	7,770	..	1,275	2,150	67,312
Wisconsin .....	5,280	78,177	13,015	2	4,498	5,968	106,940
Wyoming .....	487	6,650	2,141	..	415	504	10,197
United States ...	\$403,038	\$3,163,501	\$703,160	25	\$153,481	\$206,561	\$4,629,766

## Financial Returns

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TABLE 27 (Continued)

State	1925						
	Personal Income	Prop- erty	Busi- ness	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
35	36	37	38	39	40	41	42
Alabama .....	\$ 2,635	\$ 28,755	\$ 7,083	\$ 67	\$ 2,410	\$ 2,164	\$ 43,123
Arizona .....	796	13,806	2,290	..	645	789	18,326
Arkansas .....	2,175	25,933	6,012	35	1,667	2,073	37,895
California .....	26,516	151,876	43,847	4,771	16,901	17,905	261,816
Colorado .....	2,348	31,239	6,701	361	2,201	2,678	45,528
Connecticut ....	7,989	63,113	11,943	2,856	2,762	3,224	91,887
Delaware .....	879	6,910	1,454	32	387	517	10,179
Florida .....	3,986	28,777	10,339	41	4,753	3,457	51,353
Georgia .....	2,872	39,640	9,575	230	3,137	2,814	58,268
Idaho .....	427	14,921	2,580	168	696	911	19,703
Illinois .....	33,134	242,842	61,530	3,366	11,990	15,643	368,505
Indiana .....	7,754	96,541	16,886	689	6,169	8,444	136,483
Iowa .....	8,480	110,351	12,654	293	5,131	7,124	144,033
Kansas .....	3,085	66,831	9,989	182	4,479	5,093	89,659
Kentucky .....	3,374	34,853	9,190	194	2,291	2,916	52,818
Louisiana .....	4,085	32,473	8,261	137	2,643	2,394	49,993
Maine .....	2,093	21,998	4,330	421	1,277	1,740	31,859
Maryland .....	7,168	40,923	11,258	478	2,234	2,580	64,641
Massachusetts ..	24,636	149,699	37,511	3,729	6,206	8,263	230,044
Michigan .....	15,122	129,310	28,986	1,395	9,756	11,339	195,818
Minnesota .....	6,588	91,447	14,515	715	5,817	6,254	125,336
Mississippi .....	1,385	21,048	5,085	50	1,879	1,932	31,379
Missouri .....	9,685	107,279	19,854	787	4,700	6,769	149,074
Montana .....	576	22,810	3,711	112	762	1,107	29,078
Nebraska .....	3,036	57,480	7,765	140	3,079	3,812	75,312
Nevada .....	1,341	4,810	843	..	200	259	7,452
New Hampshire ..	1,059	15,267	2,982	243	799	957	21,307
New Jersey .....	21,468	131,170	27,928	3,528	5,642	7,794	197,530
New Mexico .....	369	8,200	1,637	1	463	513	11,183
New York .....	153,710	408,230	125,188	21,658	16,165	21,968	746,919
North Carolina ..	3,742	48,191	8,664	2,101	3,647	3,702	70,047
North Dakota ..	541	25,099	2,822	..	1,468	1,573	31,593
Ohio .....	22,162	217,246	42,423	1,758	12,431	15,925	311,945
Oklahoma .....	4,038	38,072	10,609	532	3,995	4,633	61,879
Oregon .....	1,986	36,192	6,101	148	2,192	2,429	49,048
Pennsylvania ...	42,709	322,654	69,617	11,496	9,359	16,375	472,210
Rhode Island ...	3,529	21,618	5,162	664	800	1,333	33,106
South Carolina ..	1,146	23,740	4,772	117	1,898	1,825	33,498
South Dakota ...	674	33,229	3,618	15	1,447	1,806	40,789
Tennessee .....	2,945	46,708	8,539	326	2,757	2,737	64,012
Texas .....	9,604	101,561	25,852	269	10,490	10,745	158,521
Utah .....	708	15,638	2,745	96	728	1,047	20,962
Vermont .....	755	8,333	2,067	26	585	787	12,553
Virginia .....	3,467	52,799	9,097	314	2,789	3,235	71,701
Washington ....	3,610	58,271	10,772	150	3,414	4,010	80,227
West Virginia....	3,453	57,289	7,045	237	1,725	2,529	72,278
Wisconsin .....	5,698	84,458	17,687	676	5,659	6,861	121,039
Wyoming .....	433	7,382	1,855	23	469	550	10,712
United States ...	\$49,971	\$3,397,012	\$751,374	\$65,537	\$193,103	\$235,535	\$5,112,532

TABLE 27 (Continued)

State	Personal Income	Prop- erty	Busi- ness	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
43	44	45	46	47	48	49	50
Alabama .....	\$ 2,821	\$ 30,710	\$ 7,228	\$ 93	\$ 3,045	\$ 2,522	\$ 46,419
Arizona .....	840	14,538	2,285	1	776	869	19,359
Arkansas .....	2,317	27,695	5,635	22	2,133	2,392	40,194
California .....	29,251	161,652	43,546	1,008	19,638	19,651	274,746
Colorado .....	2,370	33,420	7,144	158	2,489	2,791	48,381
Connecticut .....	8,447	66,906	11,906	529	3,200	3,409	94,397
Delaware .....	1,014	7,331	1,593	72	465	579	11,054
Florida .....	4,320	30,436	7,863	1,974	6,802	4,829	56,224
Georgia .....	2,922	42,172	9,423	25	3,844	3,161	61,547
Idaho .....	461	15,776	2,770	6	890	1,055	20,958
Illinois .....	34,810	259,692	61,506	1,234	15,470	16,968	389,689
Indiana .....	8,010	102,911	16,749	100	7,118	9,055	143,943
Iowa .....	8,556	118,195	13,094	224	5,762	7,581	153,412
Kansas .....	3,204	71,569	10,334	33	5,121	4,839	95,100
Kentucky .....	3,517	37,182	8,876	168	2,463	3,140	55,346
Louisiana .....	3,983	34,580	8,024	51	3,223	2,765	52,626
Maine .....	2,224	23,368	4,692	500	1,430	1,888	34,102
Maryland .....	7,372	43,544	10,616	173	2,730	2,772	67,207
Massachusetts .....	26,515	158,901	36,943	1,277	7,664	8,818	239,118
Michigan .....	15,924	137,142	28,843	640	11,997	13,168	207,714
Minnesota .....	5,040	96,678	13,426	126	5,718	7,153	129,041
Mississippi .....	1,446	22,406	4,921	17	2,520	2,237	33,547
Missouri .....	9,940	114,310	19,215	266	6,737	7,343	157,811
Montana .....	570	24,229	3,540	2,516	1,036	1,230	33,121
Nebraska .....	2,945	61,479	7,518	56	3,618	3,999	79,615
Nevada .....	1,439	5,174	773	1	241	305	7,933
New Hampshire .....	983	16,198	2,943	52	915	1,053	22,144
New Jersey .....	23,763	139,344	28,288	2,907	6,069	8,680	209,051
New Mexico .....	388	8,736	1,712	1	605	574	12,016
New York .....	151,976	436,358	125,988	14,711	17,136	24,470	770,639
North Carolina .....	4,001	50,951	8,555	162	4,633	4,191	72,493
North Dakota .....	576	27,011	2,976	7	1,754	1,713	34,037
Ohio .....	23,678	230,639	42,040	1,164	15,776	17,527	330,824
Oklahoma .....	4,671	40,849	11,121	20	4,929	5,605	67,195
Oregon .....	2,181	38,577	6,258	72	2,820	2,623	52,531
Pennsylvania .....	43,786	343,354	70,079	2,627	14,003	17,820	491,669
Rhode Island .....	3,497	22,966	5,000	263	1,218	1,451	34,395
South Carolina .....	1,123	25,226	4,856	18	2,141	1,977	35,341
South Dakota .....	730	35,231	3,255	8	1,527	1,814	42,565
Tennessee .....	3,053	49,501	8,256	90	3,056	3,120	67,076
Texas .....	9,956	108,408	26,476	520	12,440	11,668	169,468
Utah .....	670	16,616	2,541	16	855	1,006	21,704
Vermont .....	755	8,875	2,020	11	658	840	13,159
Virginia .....	3,593	56,050	8,860	72	3,232	3,784	75,591
Washington .....	3,797	62,137	10,626	42	4,144	4,448	85,194
West Virginia .....	3,484	60,876	7,027	155	1,987	2,622	76,151
Wisconsin .....	6,011	89,836	16,331	261	6,200	7,715	126,354
Wyoming .....	353	7,806	1,804	2	541	576	11,082
United States ...	\$484,192	\$3,617,600	\$745,475	\$34,451	\$231,769	\$259,796	\$5,373,283

# Financial Returns

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TABLE 27 (Continued)

State	1927						
	Personal Income	Prop- erty	Busi- ness	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
51	52	53	54	55	56	57	58
Alabama .....	\$ 2,934	\$ 33,417	\$ 6,762	\$ 231	\$ 4,130	\$ 2,737	\$ 50,211
Arizona .....	897	15,565	2,197	33	1,110	858	20,660
Arkansas .....	2,269	30,129	5,100	35	2,604	2,387	42,524
California .....	33,460	174,771	42,379	5,854	25,633	20,626	302,723
Colorado .....	2,348	36,504	6,659	138	3,381	3,024	52,054
Connecticut ....	10,018	71,796	10,792	1,856	4,216	3,636	102,314
Delaware .....	1,172	7,890	1,535	512	648	610	12,367
Florida .....	3,142	32,527	5,454	825	6,939	4,685	53,572
Georgia .....	2,872	45,541	8,658	103	5,302	3,420	65,896
Idaho .....	478	16,859	2,565	6	1,128	1,130	22,175
Illinois .....	37,065	283,123	54,073	3,914	20,533	17,832	416,540
Indiana .....	8,779	111,530	15,277	246	9,322	9,576	154,730
Iowa .....	8,480	129,224	11,905	257	7,966	7,682	165,514
Kansas .....	3,501	78,224	10,338	101	6,341	5,625	104,130
Kentucky .....	3,460	40,367	8,372	213	3,264	3,190	58,866
Louisiana .....	3,983	37,414	7,473	711	4,187	2,956	56,724
Maine .....	2,317	25,159	4,266	335	1,987	2,052	35,116
Maryland .....	7,168	47,056	10,302	937	3,266	2,869	71,598
Massachusetts ..	28,394	170,945	33,498	8,076	8,556	8,626	258,095
Michigan .....	15,695	147,313	25,858	1,108	15,488	13,614	219,076
Minnesota .....	6,264	105,967	12,592	916	7,141	7,429	140,309
Mississippi .....	1,599	24,202	4,716	43	3,294	2,371	36,225
Missouri .....	9,855	123,607	17,870	1,329	8,737	7,682	169,080
Montana .....	595	26,100	3,540	10	1,321	1,351	32,917
Nebraska .....	2,975	67,047	7,348	121	5,058	4,102	86,651
Nevada .....	1,488	5,700	764	..	325	330	8,607
New Hampshire ..	939	17,421	2,804	135	1,239	1,149	23,687
New Jersey .....	25,401	150,100	27,012	5,942	11,269	9,429	229,153
New Mexico .....	424	9,446	1,697	..	831	615	13,013
New York .....	174,777	474,740	123,590	18,571	25,392	25,909	842,079
North Carolina ..	4,087	54,412	8,087	384	6,063	4,722	77,755
North Dakota ..	581	29,799	2,752	3	1,760	1,784	36,679
Ohio .....	25,382	248,177	37,544	4,404	20,756	18,595	354,918
Oklahoma .....	4,988	44,788	10,066	55	6,622	5,809	72,328
Oregon .....	2,025	41,790	6,326	74	3,390	2,763	56,368
Pennsylvania ...	45,581	371,069	63,637	8,668	19,087	19,001	526,083
Rhode Island ...	3,529	24,745	4,832	706	1,550	1,533	36,895
South Carolina ...	1,226	27,184	4,611	137	2,804	2,186	38,148
South Dakota ...	723	37,820	3,111	3	1,821	1,853	45,331
Tennessee .....	3,242	53,100	7,789	154	4,118	3,274	71,677
Texas .....	10,837	117,803	26,429	1,278	16,411	12,393	185,151
Utah .....	651	17,903	2,404	68	1,153	1,102	23,281
Vermont .....	700	9,613	1,916	46	915	904	14,094
Virginia .....	3,562	60,293	8,496	217	4,373	3,935	80,876
Washington ....	3,517	67,416	10,549	88	5,274	4,732	91,576
West Virginia ...	3,484	65,612	6,565	165	2,758	2,848	81,412
Wisconsin .....	6,168	97,020	15,455	646	8,317	8,177	135,783
Wyoming .....	328	8,333	1,722	13	714	607	11,717
United States ...	\$523,360	\$3,916,561	\$697,687	\$60,667	\$308,404	\$273,709	\$5,789,478

TABLE 27 (Continued)

State	1928						
	Personal Income	Prop- erty	Busi- ness	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
59	60	61	62	63	64	65	66
Alabama .....	\$ 2,971	\$ 34,567	\$ 7,422	\$ 104	\$ 4,933	\$ 3,021	\$ 53,108
Arizona .....	1,137	16,535	2,595	16	1,585	1,065	22,933
Arkansas .....	2,332	31,173	5,803	52	3,453	2,487	45,300
California .....	38,932	182,356	47,324	8,994	31,166	21,819	330,591
Colorado .....	2,434	37,576	7,377	219	3,968	3,199	54,773
Connecticut ....	11,263	75,671	12,285	1,750	5,366	4,018	110,353
Delaware .....	1,404	8,292	1,734	581	826	665	13,502
Florida .....	2,670	34,474	5,202	2,831	7,066	4,199	56,442
Georgia .....	2,922	47,587	9,570	606	6,187	3,634	70,506
Idaho .....	524	17,872	2,765	2	1,348	1,222	23,733
Illinois .....	41,839	292,062	61,012	6,699	25,284	18,607	445,593
Indiana .....	8,971	115,972	17,282	454	11,277	9,689	163,645
Iowa .....	9,015	132,792	14,063	263	9,004	8,048	173,185
Kansas .....	3,975	80,421	11,487	83	7,819	6,024	109,809
Kentucky .....	3,660	41,882	9,434	219	4,123	3,397	62,715
Louisiana .....	3,642	38,995	8,295	137	4,937	3,068	59,074
Maine .....	2,392	25,251	4,701	673	2,469	2,174	37,660
Maryland .....	7,031	49,134	11,617	713	4,168	3,082	75,745
Massachusetts ..	28,394	179,566	37,885	5,447	12,134	9,193	272,529
Michigan .....	19,819	155,065	29,525	3,733	19,180	14,683	242,005
Minnesota .....	6,642	109,896	14,320	258	9,023	7,794	147,933
Mississippi .....	1,578	25,268	5,212	45	3,915	2,752	38,770
Missouri .....	10,450	128,931	19,991	3,520	10,551	8,035	181,478
Montana .....	656	27,368	3,894	57	1,587	1,528	35,090
Nebraska .....	3,246	69,133	8,334	129	5,892	4,295	91,029
Nevada .....	1,602	5,792	842	19	425	350	9,030
New Hampshire ..	972	18,310	3,098	561	1,532	1,234	25,797
New Jersey .....	27,860	157,391	29,958	3,842	13,053	9,070	242,674
New Mexico .....	470	9,846	1,962	3	1,148	684	14,113
New York .....	234,596	490,894	144,228	47,257	28,194	27,664	972,833
North Carolina ..	4,001	57,729	8,952	394	7,221	5,116	83,413
North Dakota ....	675	30,257	3,119	24	2,033	1,980	38,088
Ohio .....	27,087	260,607	42,424	3,145	25,031	19,446	377,740
Oklahoma .....	5,146	45,842	11,020	202	8,373	6,066	76,649
Oregon .....	2,064	43,471	6,496	152	4,144	2,797	59,124
Pennsylvania ....	49,170	387,379	70,171	10,105	26,415	20,181	563,421
Rhode Island ....	3,879	25,946	5,340	993	2,028	1,622	39,808
South Carolina ....	1,192	28,479	5,140	32	3,303	2,381	40,527
South Dakota ....	778	39,847	3,582	22	2,337	2,111	48,677
Tennessee .....	3,323	55,996	8,720	262	5,190	3,579	77,070
Texas .....	11,542	122,070	29,339	979	20,464	13,840	198,234
Utah .....	695	18,768	2,748	5	1,487	1,159	24,862
Vermont .....	669	20,005	2,167	97	1,166	989	15,993
Virginia .....	3,530	63,338	9,481	218	5,372	4,217	86,156
Washington ....	4,233	70,028	11,566	120	6,393	4,922	97,312
West Virginia ...	3,577	68,749	7,242	147	3,338	2,970	86,023
Wisconsin .....	6,273	101,383	16,949	481	10,184	8,706	143,976
Wyoming .....	232	8,843	1,974	114	909	664	12,827
United States ...	\$611,556	\$4,078,799	\$785,647	\$106,909	\$377,601	\$290,256	\$6,250,768

# Financial Returns

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TABLE 27 (Continued)

State	1929						
	Personal Income	Prop- erty	Busi- ness	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
67	68	69	70	71	72	73	74
Alabama .....	\$ 2,971	\$ 34,693	\$ 7,779	\$ 202	\$ 5,737	\$ 3,213	\$ 54,595
Arizona .....	1,346	16,640	2,809	8	2,061	1,240	24,104
Arkansas .....	2,427	31,282	6,241	71	4,303	2,732	47,056
California .....	39,353	183,162	48,857	6,195	36,700	23,669	337,636
Colorado .....	2,714	37,694	7,969	887	4,555	3,440	57,259
Connecticut ....	12,899	76,089	13,139	2,647	6,516	4,236	115,526
Delaware .....	1,915	8,326	1,838	5,477	1,005	707	19,268
Florida .....	2,592	34,688	5,375	772	7,193	4,136	54,756
Georgia .....	3,372	47,813	10,285	477	7,071	4,116	73,134
Idaho .....	536	17,980	2,987	2	1,507	1,350	24,422
Illinois .....	47,455	293,025	65,244	6,025	30,036	19,963	461,748
Indiana .....	9,420	110,453	18,647	1,078	13,232	10,216	169,046
Iowa .....	9,473	133,178	15,681	523	10,042	8,657	177,554
Kansas .....	4,005	80,659	12,826	285	9,297	6,628	113,700
Kentucky .....	3,803	42,040	10,188	414	4,982	3,711	65,138
Louisiana .....	3,949	39,168	8,758	334	5,688	3,269	61,186
Maine .....	2,523	26,523	5,284	478	2,950	2,335	40,093
Maryland .....	7,372	49,351	12,270	578	5,069	3,815	78,455
Massachusetts ..	30,899	180,490	40,132	5,837	15,712	10,221	283,291
Michigan .....	21,767	155,886	34,102	3,890	22,872	16,314	254,831
Minnesota .....	7,290	110,325	15,532	1,588	10,904	8,477	154,116
Mississippi .....	1,650	25,391	5,681	16	4,537	2,801	40,076
Missouri .....	11,215	129,503	21,581	2,545	12,366	8,576	185,786
Montana .....	687	27,508	4,011	14	1,852	1,710	35,782
Nebraska .....	3,426	69,347	8,786	81	6,726	4,668	93,034
Nevada .....	2,027	5,802	921	394	525	409	10,078
New Hampshire ..	1,038	18,402	3,355	202	1,825	1,299	26,121
New Jersey .....	32,612	158,171	31,962	6,053	16,038	10,843	255,679
New Mexico .....	495	9,887	2,135	77	1,464	815	14,873
New York .....	225,666	492,564	152,357	55,331	30,996	29,897	986,811
North Carolina ..	4,001	58,082	9,385	644	8,379	5,385	85,876
North Dakota ...	693	30,304	6,084	10	2,305	2,174	41,570
Ohio .....	28,602	261,942	45,021	3,628	29,307	20,753	389,253
Oklahoma .....	6,097	45,950	11,810	82	10,123	6,436	80,498
Oregon .....	2,162	43,652	6,871	185	4,897	3,025	60,792
Pennsylvania ...	53,477	389,125	75,698	16,185	33,743	21,110	589,338
Rhode Island ...	4,197	26,065	5,821	6,070	2,506	1,718	46,375
South Carolina ...	1,192	28,624	5,460	145	3,801	2,557	41,779
South Dakota ...	847	40,058	3,812	25	2,854	2,267	49,863
Tennessee .....	3,675	56,303	9,365	111	6,263	4,042	79,759
Texas .....	12,511	122,529	31,076	588	24,518	15,488	206,710
Utah .....	759	18,854	2,916	46	1,821	1,352	25,728
Vermont .....	739	10,048	2,351	73	1,416	1,071	15,698
Virginia .....	3,593	63,653	10,209	426	6,372	4,542	88,795
Washington .....	4,669	70,301	12,588	166	7,513	5,389	100,626
West Virginia ...	3,733	69,083	7,915	540	3,917	3,194	88,382
Wisconsin .....	6,377	101,849	17,994	439	12,051	9,331	148,041
Wyoming .....	328	8,897	2,001	10	1,103	722	13,061
United States ...	\$634,549	\$4,097,357	\$843,109	\$131,854	\$446,710	\$314,019	\$6,467,598

TABLE 27 (Continued)

State	1930						
	Personal Income	Prop- erty	Busi- ness	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
75	76	77	78	79	80	81	82
Alabama .....	\$ 3,066	\$ 39,807	\$ 5,519	\$ 234	\$ 5,780	\$ 3,131	\$ 57,537
Arizona .....	1,424	17,882	2,032	207	2,236	1,269	25,050
Arkansas .....	2,296	35,849	4,224	37	4,306	2,467	49,179
California .....	40,071	205,834	40,634	8,554	38,938	24,570	359,501
Colorado .....	2,822	43,732	5,955	743	5,146	3,525	61,923
Connecticut .....	12,989	83,446	10,110	3,372	7,480	4,284	121,681
Delaware .....	1,894	9,210	1,444	416	1,132	723	14,819
Florida .....	2,837	37,532	4,365	956	7,606	3,908	57,204
Georgia .....	3,242	53,514	7,348	335	7,477	3,927	75,843
Idaho .....	606	19,440	2,175	2	1,823	1,370	25,416
Illinois .....	46,760	338,350	48,269	11,498	30,678	20,267	495,822
Indiana .....	10,043	131,945	13,680	758	14,370	10,341	181,137
Iowa .....	10,944	155,174	11,719	154	11,819	8,629	198,439
Kansas .....	4,540	93,906	9,230	155	10,185	6,864	124,880
Kentucky .....	4,062	47,876	7,429	840	5,638	3,712	69,557
Louisiana .....	4,168	44,117	6,506	399	6,190	3,216	64,596
Maine .....	2,769	20,425	4,125	2,691	3,442	2,362	44,814
Maryland .....	8,944	55,363	10,191	2,046	5,855	3,820	86,219
Massachusetts ..	30,676	190,567	30,276	10,533	17,693	10,594	299,339
Michigan .....	21,041	171,502	22,541	5,858	24,202	15,528	260,672
Minnesota .....	7,604	125,775	11,988	1,437	11,568	8,594	166,966
Mississippi .....	1,733	28,478	3,679	82	4,550	2,685	41,207
Missouri .....	11,548	145,612	15,948	2,090	14,471	8,689	198,358
Montana .....	698	30,546	2,802	67	1,971	1,661	37,745
Nebraska .....	3,828	80,182	6,838	150	7,588	4,934	103,520
Nevada .....	2,122	6,924	671	1	565	381	10,664
New Hampshire ..	1,123	20,309	2,591	488	2,093	1,388	27,992
New Jersey .....	35,518	175,647	24,805	13,571	18,314	11,066	278,921
New Mexico ....	561	11,139	1,607	38	1,822	993	16,160
New York .....	139,588	567,268	109,266	48,571	48,193	30,381	943,267
North Carolina ..	4,158	62,672	6,663	570	8,397	5,114	87,574
North Dakota ..	711	36,307	2,321	20	2,199	2,143	43,701
Ohio .....	29,020	289,840	33,440	5,516	31,056	20,653	410,425
Oklahoma .....	6,883	54,063	8,510	66	10,127	6,219	85,868
Oregon .....	2,336	49,396	5,139	530	5,192	2,800	65,393
Pennsylvania ...	54,054	436,704	57,945	20,632	31,116	21,341	621,792
Rhode Island ...	4,126	28,951	4,343	990	2,902	1,740	43,052
South Carolina ..	1,319	31,842	3,974	100	3,989	2,439	43,663
South Dakota ...	1,003	43,982	2,839	16	2,935	2,303	53,078
Tennessee .....	3,672	61,659	6,929	524	7,182	4,156	84,122
Texas .....	13,054	139,980	22,277	914	24,729	15,916	216,870
Utah .....	820	20,978	2,113	40	2,015	1,355	27,321
Vermont .....	801	11,367	1,747	217	1,574	1,000	16,706
Virginia .....	4,053	70,383	7,723	945	7,219	4,413	94,736
Washington ....	4,878	79,879	9,803	615	8,099	5,439	108,713
West Virginia ...	4,113	76,870	5,871	222	4,488	3,169	94,733
Wisconsin .....	7,233	114,021	13,815	1,483	13,927	9,230	159,709
Wyoming .....	353	9,596	1,490	20	1,212	742	13,413
United States ...	\$563,904	\$4,623,841	\$624,909	\$149,703	\$491,489	\$315,451	\$6,769,297



# Financial Returns

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TABLE 27 (Continued)

State	1931						
	Personal Income	Prop- erty	Busi- ness	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
83	84	85	86	87	88	89	90
Alabama .....	\$ 2,710	\$ 40,641	\$ 3,948	\$ 505	\$ 5,661	\$ 2,784	\$ 56,249
Arizona .....	1,349	18,257	1,442	26	2,252	1,220	24,546
Arkansas .....	1,275	36,600	2,958	22	3,848	2,122	46,825
California .....	36,103	210,146	28,818	4,312	46,242	24,640	350,261
Colorado .....	2,644	44,648	4,339	89	5,441	3,523	60,684
Connecticut ....	12,603	85,194	7,430	2,780	8,227	4,331	120,565
Delaware .....	1,665	9,403	1,048	425	1,244	704	14,429
Florida .....	2,684	38,319	3,483	404	8,180	3,832	56,902
Georgia .....	3,101	54,635	5,188	255	7,722	3,702	74,603
Idaho .....	625	19,847	1,426	..	1,808	1,303	25,009
Illinois .....	39,556	345,438	34,467	9,208	33,716	19,864	482,249
Indiana .....	9,116	134,708	9,804	566	15,690	10,209	180,093
Iowa .....	10,123	158,424	8,115	252	12,676	8,396	197,986
Kansas .....	3,890	95,873	6,243	208	9,362	6,471	122,047
Kentucky .....	3,391	48,879	5,307	403	6,132	3,657	67,769
Louisiana .....	4,179	45,041	4,656	132	6,541	3,119	63,668
Maine .....	2,632	30,041	3,034	182	3,813	2,391	42,093
Maryland .....	8,664	56,522	7,407	1,784	6,465	3,822	84,664
Massachusetts ..	27,955	203,748	23,395	7,414	19,438	10,400	292,440
Michigan .....	18,856	175,095	16,309	3,894	25,325	14,337	253,816
Minnesota .....	6,703	128,409	8,758	1,952	12,841	8,459	167,122
Mississippi .....	1,378	29,074	2,595	98	4,024	2,129	39,298
Missouri .....	10,783	148,662	11,616	1,717	16,019	8,635	197,432
Montana .....	693	31,186	1,908	31	2,101	1,559	37,478
Nebraska .....	3,480	81,862	4,734	158	7,914	4,838	102,986
Nevada .....	2,144	7,069	577	..	677	473	10,880
New Hampshire ..	1,127	20,734	1,984	256	2,312	1,373	27,786
New Jersey .....	34,973	179,326	19,001	5,049	19,864	11,209	269,422
New Mexico .....	515	11,373	1,200	..	1,855	987	15,830
New York .....	103,897	579,150	82,714	34,068	53,147	29,988	882,964
North Carolina ..	3,894	63,985	4,832	206	8,686	4,845	86,448
North Dakota ...	679	37,067	1,616	2	2,355	2,012	43,731
Ohio .....	26,948	295,911	23,544	2,695	34,215	19,955	403,268
Oklahoma .....	5,135	55,196	5,677	319	8,786	5,477	80,590
Oregon .....	2,173	50,431	3,624	97	5,396	3,127	64,848
Pennsylvania ...	48,558	445,851	41,972	12,511	37,645	21,171	607,708
Rhode Island ...	3,769	29,557	3,183	1,438	3,293	1,746	42,986
South Carolina ...	1,183	32,509	2,815	218	4,203	2,259	43,187
South Dakota ...	912	44,903	1,945	79	2,953	2,169	52,961
Tennessee .....	3,128	62,950	4,945	220	7,193	3,922	82,358
Texas .....	11,674	142,913	16,199	662	26,548	15,250	213,246
Utah .....	714	11,477	1,529	32	2,101	1,298	27,091
Vermont .....	803	11,605	1,237	124	1,711	971	16,451
Virginia .....	4,000	71,857	5,612	618	7,966	4,428	94,481
Washington ....	4,384	81,552	7,068	207	8,510	5,128	106,849
West Virginia ...	3,992	78,480	4,209	198	4,687	3,020	94,586
Wisconsin .....	6,854	116,410	10,173	1,027	15,016	9,026	158,506
Wyoming .....	347	9,797	1,099	3	1,381	754	13,381
United States ...	\$487,961	\$4,720,695	\$455,083	\$56,846	\$533,182	\$307,065	\$6,600,832

TABLE 27 (Continued)

State	1932						
	Personal Income	Prop- erty	Busi- ness	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
91	92	93	94	95	96	97	98
Alabama .....	\$ 2,041	\$ 40,860	\$ 2,720	\$ 37	\$ 4,911	\$ 2,563	\$ 53,141
Arizona .....	1,049	18,355	1,006	27	2,088	1,125	23,650
Arkansas .....	960	36,796	2,083	35	3,099	1,605	44,587
California .....	28,487	211,275	21,363	5,483	43,355	23,587	333,550
Colorado .....	2,121	44,888	2,998	261	4,922	3,256	58,446
Connecticut ....	10,374	85,652	5,670	1,739	8,432	4,396	116,263
Delaware .....	1,340	9,453	791	216	1,308	671	13,779
Florida .....	2,235	38,525	2,323	588	7,462	3,277	54,410
Georgia .....	2,574	54,929	3,681	507	7,163	3,321	72,175
Idaho .....	509	19,954	900	..	1,040	1,110	24,113
Illinois .....	29,804	347,295	23,593	4,967	34,505	18,243	458,407
Indiana .....	6,505	135,433	6,974	475	15,066	9,430	173,883
Iowa .....	7,639	159,276	5,761	390	10,764	7,649	191,479
Kansas .....	3,012	96,388	4,260	218	8,905	5,818	118,601
Kentucky .....	2,947	49,141	3,780	452	5,906	3,275	65,501
Louisiana .....	3,404	45,283	3,394	260	5,977	2,870	61,188
Maine .....	2,184	30,203	2,065	455	3,786	2,168	40,861
Maryland .....	7,350	56,826	5,439	2,475	6,750	3,741	82,581
Massachusetts ..	22,160	204,843	17,606	11,008	19,823	10,012	285,542
Michigan .....	14,274	176,036	11,198	1,826	24,518	13,080	240,932
Minnesota .....	5,565	129,100	6,221	1,272	12,001	7,990	162,149
Mississippi .....	1,191	29,231	1,746	25	3,482	1,769	37,444
Missouri .....	8,756	149,461	8,502	1,464	16,100	8,296	192,588
Montana .....	557	31,354	1,278	57	1,937	1,330	36,513
Nebraska .....	2,543	82,302	3,117	126	7,029	4,352	99,469
Nevada .....	1,635	7,107	366	..	654	406	10,168
New Hampshire ..	958	20,846	1,437	509	2,375	1,308	27,433
New Jersey .....	29,495	180,290	13,770	5,713	19,941	10,980	260,189
New Mexico .....	409	11,434	722	54	1,578	930	15,127
New York .....	84,978	582,264	61,866	22,802	53,465	28,938	834,313
North Carolina ..	3,143	64,329	3,347	155	8,342	4,226	83,542
North Dakota ..	577	37,267	1,079	..	2,203	1,790	42,916
Ohio .....	19,232	297,502	16,812	3,248	30,842	18,342	385,978
Oklahoma .....	4,384	55,492	4,171	251	8,695	4,855	77,848
Oregon .....	1,648	50,702	2,649	566	5,043	2,919	63,527
Pennsylvania ...	36,438	448,248	29,286	13,136	36,348	20,176	583,632
Rhode Island ...	3,228	29,716	2,231	1,366	3,337	1,668	41,546
South Carolina ...	863	32,684	1,936	15	3,735	1,949	41,182
South Dakota ...	614	45,144	1,262	14	2,667	1,854	51,555
Tennessee .....	2,701	63,289	3,443	185	6,267	3,335	79,220
Texas .....	9,759	143,681	11,952	1,402	24,357	13,922	205,073
Utah .....	583	21,532	1,051	13	1,955	1,189	26,323
Vermont .....	682	11,667	856	13	1,687	899	15,804
Virginia .....	3,685	72,244	4,081	1,015	7,783	4,387	93,195
Washington ....	3,352	81,991	4,745	172	7,952	5,426	103,638
West Virginia ...	3,253	78,902	2,932	381	4,448	2,698	92,614
Wisconsin .....	5,799	117,035	6,702	863	13,454	8,321	152,084
Wyoming .....	306	9,850	738	13	1,276	681	12,864
United States ...	\$387,222	\$4,746,075	\$325,912	\$86,339	\$509,342	\$286,133	\$6,341,023

TABLE 28

PER CENT TAX REVENUE IN THE SEVERAL STATES IS OF TOTAL  
FOR THE COUNTRY AS A WHOLE, 1922-1932

State	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1922-1932
I	2	3	4	5	6	7	8	9	10	11	12	13
Alabama .....	.83	.85	.84	.84	.86	.87	.85	.84	.85	.85	.84	.85
Arizona .....	.35	.36	.36	.36	.36	.36	.37	.37	.37	.37	.37	.36
Arkansas .....	.74	.74	.75	.74	.75	.73	.72	.73	.73	.71	.70	.73
California .....	4.87	4.64	5.07	5.12	5.11	5.23	5.20	5.22	5.31	5.31	5.26	5.16
Colorado .....	.93	.92	.92	.89	.90	.90	.88	.89	.91	.92	.92	.91
Connecticut ...	1.73	1.77	1.76	1.80	1.76	1.77	1.77	1.79	1.80	1.83	1.83	1.78
Delaware .....	.20	.21	.20	.20	.21	.21	.22	.20	.22	.22	.22	.22
Florida .....	.78	.81	.84	1.00	1.05	.93	.90	.85	.85	.86	.86	.88
Georgia .....	1.12	1.15	1.13	1.14	1.15	1.14	1.13	1.13	1.12	1.13	1.14	1.13
Idaho .....	.38	.38	.38	.38	.39	.38	.38	.38	.38	.38	.38	.38
Illinois .....	7.51	7.44	7.36	7.21	7.25	7.19	7.13	7.14	7.32	7.31	7.23	7.27
Indiana .....	2.73	2.76	2.71	2.67	2.68	2.67	2.62	2.61	2.68	2.73	2.74	2.69
Iowa .....	3.07	2.97	2.93	2.82	2.85	2.86	2.77	2.74	2.93	3.00	3.02	2.90
Kansas .....	1.90	1.83	1.78	1.75	1.77	1.80	1.76	1.76	1.84	1.85	1.87	1.81
Kentucky .....	1.05	1.04	1.06	1.03	1.03	1.02	1.00	1.01	1.03	1.03	1.03	1.03
Louisiana .....	.97	.97	.98	.98	.98	.98	.94	.95	.95	.96	.97	.96
Maine .....	.63	.63	.63	.62	.63	.62	.60	.62	.66	.64	.64	.63
Maryland .....	1.30	1.30	1.29	1.26	1.25	1.24	1.21	1.21	1.27	1.28	1.30	1.26
Massachusetts ..	4.53	4.53	4.43	4.50	4.45	4.46	4.36	4.38	4.42	4.43	4.45	4.45
Michigan .....	3.65	3.86	3.77	3.83	3.87	3.78	3.87	3.94	3.85	3.85	3.80	3.83
Minnesota .....	2.50	2.50	2.46	2.45	2.40	2.42	2.37	2.38	2.47	2.53	2.56	2.46
Mississippi .....	.60	.60	.61	.61	.62	.63	.62	.62	.61	.60	.59	.61
Missouri .....	2.98	2.99	2.95	2.92	2.94	2.92	2.90	2.87	2.93	2.99	3.04	2.95
Montana .....	.58	.58	.58	.57	.62	.57	.56	.55	.56	.57	.58	.57
Nebraska .....	1.60	1.55	1.52	1.47	1.48	1.50	1.46	1.44	1.53	1.56	1.57	1.52
Nevada .....	.17	.17	.16	.15	.15	.15	.14	.16	.16	.16	.16	.16
New Hampshire ..	.42	.43	.41	.42	.41	.41	.41	.40	.41	.42	.43	.42
New Jersey .....	3.86	3.91	3.86	3.86	3.89	3.96	3.88	3.95	4.12	4.08	4.10	3.96
New Mexico ...	.23	.22	.22	.22	.22	.22	.23	.23	.24	.24	.24	.23
New York ....	14.05	13.76	14.26	14.61	14.34	14.56	15.56	15.26	13.93	13.38	13.16	14.27
North Carolina ..	1.29	1.33	1.33	1.37	1.35	1.34	1.33	1.33	1.29	1.31	1.32	1.33
North Dakota ...	.68	.64	.64	.62	.63	.63	.61	.64	.65	.66	.68	.64
Ohio .....	6.03	6.20	6.09	6.10	6.16	6.13	6.04	6.02	6.06	6.11	6.09	6.09
Oklahoma .....	1.25	1.22	1.22	1.21	1.25	1.25	1.23	1.24	1.27	1.22	1.23	1.24
Oregon .....	.99	.99	.99	.96	.98	.97	.95	.94	.97	.98	1.00	.97
Pennsylvania .	9.29	9.38	9.28	9.24	9.15	9.10	9.01	9.11	9.19	9.21	9.20	9.19
Rhode Island ...	.65	.65	.64	.65	.64	.64	.64	.72	.64	.65	.66	.65
South Carolina ..	.65	.67	.66	.66	.66	.66	.65	.65	.64	.65	.65	.65
South Dakota .	.81	.80	.80	.80	.79	.78	.78	.77	.78	.80	.81	.79
Tennessee ....	1.23	1.26	1.24	1.25	1.25	1.24	1.23	1.23	1.24	1.25	1.25	1.24
Texas .....	3.13	3.16	3.18	3.10	3.15	3.20	3.17	3.20	3.20	3.23	3.23	3.18
Utah .....	.41	.42	.41	.41	.40	.40	.40	.40	.40	.41	.42	.41
Vermont .....	.26	.26	.25	.25	.24	.24	.24	.24	.25	.25	.25	.25
Virginia .....	1.41	1.43	1.42	1.40	1.41	1.40	1.38	1.37	1.40	1.43	1.47	1.41
Washington ...	1.61	1.65	1.65	1.57	1.59	1.58	1.56	1.56	1.61	1.62	1.63	1.60
West Virginia .	1.47	1.47	1.45	1.41	1.42	1.41	1.38	1.37	1.40	1.43	1.46	1.42
Wisconsin .....	2.37	2.38	2.31	2.37	2.35	2.35	2.30	2.29	2.36	2.40	2.40	2.35
Wyoming .....	.21	.22	.22	.21	.21	.20	.20	.20	.20	.20	.20	.21
United States .	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

similar to that in Delaware. Table 27 shows the inheritance tax to be the cause of the sudden change of index for Rhode Island in 1929.

Tables 29 and 30 show the percentage distribution of total tax revenue, during the decade 1922-1932, arising from the various taxes. The percentage distribution is based on the data presented in Table 27. The various parts of the tax plan would have been responsible for the following percentages of tax revenue during the decade 1922-1932 for the forty-eight states considered as a whole: personal income 8.52 per cent, tangible property 68.66 per cent, business 11.62 per cent, inheritance 1.20 per cent, motor fuel 5.47 per cent, and motor vehicle registration 4.53 per cent.

The amount of tax revenue which each state would have received from each of the foregoing taxes varies from state to state. The per cent which personal income tax revenue would have been of total tax revenue varies from 1.59 per cent in North Dakota to 18.95 per cent in Nevada. The percentage which tangible property tax collections would have been of total tax collections during the years 1922 to 1932 ranged from 58.55 per cent in New York to 83.33 per cent in South Dakota. The percentage which the business tax collections would have been of total state and local tax collections ranged from 6.56 per cent in South Dakota to 14.30 per cent in Wyoming. The inheritance tax showed the widest range. The extremes were: North Dakota 0.02 per cent and Delaware 5.67 per cent.

The percentage which motor fuel tax revenue would have been of total revenue in the various states from 1922 to 1932 varied from 11.24 per cent for Florida to 3.36 per cent for New York. The percentage which motor vehicle registration fees were of total state and local tax revenue during the years 1922 to 1932 varied from 3.02 per cent for New York to 7.20 for Oklahoma.

The relative ability of the states to raise tax revenue is slightly changed if the tax plan used in this study is supplemented by a retail sales tax. (See Table 30.) The change is due to the fact that the poorest states would have raised relatively more tax revenue from a retail sales tax than the richest states. Table 30 shows the per cent of total state and local tax revenue which a retail sales tax would have yielded during the decade 1922-1932, if the several states had adopted the tax plan of this study and had supplemented it with a 2 per cent retail sales tax, including a special tax on "luxuries."

TABLE 29

PERCENTAGE DISTRIBUTION OF STATE AND LOCAL TAX COLLECTIONS UNDER  
A TAX SYSTEM BASED ON THE MODEL TAX PLAN, 1922-1932

State	Personal Income	Tangible Property	Business	Supplementary Taxes			Total
				Inher- itance	Motor Fuel	Automobile License	
1	2	3	4	5	6	7	8
Alabama	5.37	69.18	12.52	.30	7.64	4.99	100.00
Arizona	4.79	74.44	10.05	.14	6.09	4.49	100.00
Arkansas	4.71	72.52	11.66	.07	6.17	4.87	100.00
California	10.67	59.38	12.94	1.41	8.87	6.73	100.00
Colorado	4.63	70.81	12.06	.51	6.35	5.64	100.00
Connecticut	9.67	70.29	10.41	1.59	4.55	3.49	100.00
Delaware	9.94	62.70	11.48	5.67	5.58	4.63	100.00
Florida	5.57	64.12	10.65	1.53	11.24	6.89	100.00
Georgia	4.43	70.33	12.43	.36	7.60	4.85	100.00
Idaho	2.29	77.14	10.54	.08	5.07	4.88	100.00
Illinois	8.77	68.47	12.77	1.04	4.89	4.06	100.00
Indiana	5.32	72.77	9.72	.26	6.12	5.81	100.00
Iowa	5.32	78.37	7.12	.13	4.51	4.55	100.00
Kansas	3.36	76.08	9.04	.11	6.10	5.31	100.00
Kentucky	5.77	68.89	13.63	.46	5.99	5.26	100.00
Louisiana	6.96	67.94	12.75	.36	7.22	4.77	100.00
Maine	6.34	69.38	11.53	1.46	5.92	5.37	100.00
Maryland	10.22	65.20	14.20	1.17	5.08	4.13	100.00
Massachusetts	10.21	67.19	13.03	1.94	4.20	3.43	100.00
Michigan	7.48	67.21	11.52	.94	7.09	5.76	100.00
Minnesota	4.46	75.69	8.73	.54	5.52	5.06	100.00
Mississippi	4.00	69.54	12.34	.10	8.17	5.85	100.00
Missouri	5.90	73.51	10.17	.75	5.30	4.37	100.00
Montana	1.91	79.82	9.62	.81	3.90	3.94	100.00
Nebraska	3.74	77.81	8.11	.10	5.50	4.74	100.00
Nevada	18.95	64.48	8.55	.43	4.07	3.52	100.00
New Hampshire	4.39	73.15	11.37	.95	5.54	4.60	100.00
New Jersey	11.52	66.25	11.52	1.90	4.86	3.95	100.00
New Mexico	3.25	72.25	11.84	.12	7.48	5.06	100.00
New York	17.89	58.55	14.21	2.97	3.36	3.02	100.00
North Carolina	4.91	71.54	10.04	.56	7.44	5.51	100.00
North Dakota	1.59	81.72	7.49	.02	4.53	4.65	100.00
Ohio	6.89	71.25	10.38	.68	5.79	5.01	100.00
Oklahoma	6.86	63.83	13.06	.20	8.85	7.20	100.00
Oregon	3.67	75.33	9.99	.30	6.06	4.65	100.00
Pennsylvania	8.49	70.76	11.73	1.67	3.94	3.41	100.00
Rhode Island	9.70	66.47	12.12	3.09	4.67	3.95	100.00
South Carolina	3.10	72.81	11.42	.19	7.11	5.37	100.00
South Dakota	1.63	83.33	6.56	.04	4.28	4.16	100.00
Tennessee	4.35	74.58	10.46	.24	5.96	4.41	100.00
Texas	5.81	64.99	13.30	.34	8.91	6.65	100.00
Utah	2.97	77.06	10.01	.13	5.25	4.58	100.00
Vermont	5.30	68.14	13.22	.40	6.92	6.02	100.00
Virginia	4.46	74.76	10.04	.44	5.66	4.64	100.00
Washington	4.20	73.92	11.05	.16	5.75	4.92	100.00
West Virginia	4.40	80.83	7.96	.23	3.40	3.18	100.00
Wisconsin	4.52	72.24	10.75	.41	6.41	5.67	100.00
Wyoming	3.40	70.43	14.30	.16	6.54	5.17	100.00
United States	8.52	68.66	11.62	1.20	5.47	4.53	100.00

TABLE 30

PERCENTAGE DISTRIBUTION OF STATE AND LOCAL TAX COLLECTIONS UNDER  
A TAX SYSTEM BASED ON THE MODEL TAX PLAN, PROVIDED A RETAIL  
SALES TAX IS INCLUDED AT 2 PER CENT, 1922-1932

State	Personal Income	Tangible Property	Business	Supplementary Taxes			Sales Tax	Total
				Inher- itance	Motor Fuel	Auto License		
1	2	3	4	5	6	7	8	9
Alabama .....	4.02	51.76	9.37	.22	5.72	3.73	25.18	100.00
Arizona .....	3.91	60.84	8.21	.11	4.98	3.67	18.28	100.00
Arkansas .....	3.65	56.21	9.03	.05	4.79	3.77	22.50	100.00
California .....	8.59	47.78	10.42	1.14	7.13	5.41	19.53	100.00
Colorado .....	3.77	57.59	9.81	.41	5.16	4.59	18.67	100.00
Connecticut .....	8.13	59.08	8.75	1.33	3.83	2.94	15.94	100.00
Delaware .....	8.20	51.73	9.47	4.68	4.61	3.82	17.49	100.00
Florida .....	4.45	51.27	8.52	1.22	8.99	5.51	20.04	100.00
Georgia .....	3.40	53.99	9.54	.28	5.83	3.72	23.24	100.00
Idaho .....	1.90	64.18	8.76	.07	4.22	4.06	16.81	100.00
Illinois .....	7.25	56.61	10.55	.86	4.05	3.36	17.32	100.00
Indiana .....	4.45	60.81	8.13	.22	5.11	4.85	16.43	100.00
Iowa .....	4.66	68.61	6.24	.11	3.94	3.99	12.45	100.00
Kansas .....	2.85	64.46	7.66	.09	5.17	4.50	15.27	100.00
Kentucky .....	4.45	53.12	10.51	.35	4.62	4.05	22.90	100.00
Louisiana .....	5.54	54.11	10.15	.29	5.75	3.80	20.36	100.00
Maine .....	3.17	56.59	9.41	1.20	4.83	4.38	18.42	100.00
Maryland .....	8.33	53.19	11.58	.96	4.15	3.37	18.42	100.00
Massachusetts .....	8.45	55.61	10.78	1.60	3.47	2.84	17.25	100.00
Michigan .....	6.05	54.37	9.32	.76	5.74	4.67	19.09	100.00
Minnesota .....	3.68	62.56	7.22	.45	4.56	4.18	17.35	100.00
Mississippi .....	2.97	51.65	9.16	.08	6.07	4.34	25.73	100.00
Missouri .....	4.86	60.54	8.37	.62	4.37	3.60	17.64	100.00
Montana .....	1.58	65.93	7.95	.67	3.22	3.25	17.40	100.00
Nebraska .....	3.21	66.74	6.96	.09	4.71	4.06	14.23	100.00
Nevada .....	16.74	56.95	7.55	.38	3.59	3.11	11.68	100.00
New Hampshire .....	3.65	60.78	9.44	.79	4.60	3.82	16.92	100.00
New Jersey .....	9.62	55.31	9.62	1.58	4.06	3.30	16.51	100.00
New Mexico .....	2.61	58.09	9.51	.10	6.02	4.07	19.60	100.00
New York .....	14.86	48.65	11.81	2.47	2.80	2.51	16.90	100.00
North Carolina .....	3.90	56.87	7.98	.45	5.91	4.38	20.51	100.00
North Dakota .....	1.35	69.37	6.36	.01	3.85	3.94	15.12	100.00
Ohio .....	5.70	58.92	8.58	.56	4.79	4.14	17.31	100.00
Oklahoma .....	5.30	49.28	10.08	.15	6.83	5.56	22.80	100.00
Oregon .....	3.07	63.08	8.36	.25	5.08	3.90	16.26	100.00
Pennsylvania .....	7.09	59.70	9.80	1.40	3.28	2.85	16.48	100.00
Rhode Island .....	7.95	54.46	9.93	2.54	3.83	3.23	18.06	100.00
South Carolina .....	2.44	57.28	8.98	.15	5.59	4.22	21.34	100.00
South Dakota .....	1.41	71.99	5.67	.03	3.70	3.59	13.61	100.00
Tennessee .....	3.45	59.18	8.30	.19	4.73	3.50	20.65	100.00
Texas .....	4.55	50.82	10.40	.26	6.97	5.20	21.80	100.00
Utah .....	2.46	63.89	8.30	.11	4.35	3.80	17.09	100.00
Vermont .....	4.18	53.68	10.41	.31	5.46	4.74	21.22	100.00
Virginia .....	3.66	61.35	8.24	.36	4.64	3.81	17.94	100.00
Washington .....	3.50	61.58	9.20	.13	4.79	4.10	16.70	100.00
West Virginia .....	3.79	69.64	6.86	.20	2.93	2.74	13.84	100.00
Wisconsin .....	3.70	59.77	8.80	.33	5.25	4.65	18.10	100.00
Wyoming .....	2.77	57.54	11.68	.13	5.35	4.23	18.30	100.00
United States .....	7.01	56.48	9.56	.98	4.50	3.73	17.74	100.00

It is desirable at this point to issue concerning the estimates presented in this chapter certain warnings as to the revenue which would have been realized under the tax system employed. In making these estimates it has been the aim to use the best available data pertinent to the problem at hand. Every effort has been made to insure accuracy of computation. It is believed that the results obtained are sufficiently valid to justify the conclusions drawn.

It should be clearly recognized, however, that the results obtained have not been adequately validated statistically. Rather, their validity must rest largely upon an acceptance of the logic of the assumptions and statistical calculations employed. If resources had permitted, the investigator would have carried the process of validating the estimates obtained far beyond the meager data presented on this point. These considerations, therefore, require that the estimates of the revenue which could have been raised through particular taxes for individual states be used with caution. Whereas these estimates are generally believed to be sufficiently accurate to justify the principal conclusion of the investigation, it is probable that in certain instances they vary from the true situation. It is probably true that the figures given are not highly valid in the case of a few individual states.

It is desirable to point out certain weaknesses which may inhere in the data because of the methods of estimate employed in arriving at the revenue which each type of tax would raise. The tax on tangible property, which accounts for 68.66 per cent of the total revenue that would have been raised by the tax plan used, leans heavily upon the 1912 and 1922 censuses of wealth taken by the Federal Government, corrected for changes in price level. It is possible, therefore, that the estimates of this investigation fail to take adequate account of the heavy deflation of land values which took place in the decade following war-time prosperity, particularly in the predominantly agricultural states. In these states more than 68 per cent of the estimated revenue comes from the tangible property tax. Any weaknesses in the estimates of the revenue which would have been raised by the tangible property tax are particularly significant because of the large percentage of total revenue coming from this tax, and would be most significant in the states in which the percentages of revenue resulting from the property tax are highest.

The situation affecting property values, particularly in recent

years, is such, however, that any highly satisfactory measure of the value of tangible property would be difficult to obtain even if extensive resources were available for making the estimate. For this and other reasons, it was believed justifiable to use the estimates arrived at in this study of the revenue which would have been realized from the property tax for the purposes for which they are employed.

The estimates of revenue which could have been raised through some of the taxes, however, may be accepted with a high degree of confidence, because an objective and valid criterion is easy to define and because the methods of estimate used relied upon direct or primary data. This is so in the case of the estimates of revenue which would have been realized from the automobile license tax and the tax on motor fuel. The figures involved in these estimates are based principally on Federal data concerning the number of automobiles registered and the amount of motor fuel sold.

The estimates of the revenue which would have come from the inheritance tax are also of a nature which justifies their acceptance.

The estimates of revenue from personal income in the early years of the period studied probably have considerable validity, because of the availability of pertinent Federal data concerning the distribution of incomes, particularly in the lower brackets, for the year 1920. The use of the bank debits index as a means of determining the trend of income tax revenue which would have been realized in the several states doubtless introduces a factor of decreasing validity in the later years of the period studied.

The estimates of the revenue which would have been realized from the corporation net income tax are in part highly valid and in part less valid. About one-third of the total involves the direct use of Federal figures pertaining to the amount of incorporated business done in each state. It seems reasonable to assume that unincorporated business concerns generally operate in the states in which they pay taxes. The estimates of the remaining two-thirds of the revenue from the business tax are valid as to the total amount for the country as a whole, in that these figures are derived directly from the experiences of the Federal Government in this tax field. The method of distributing the total among the states is less satisfactory, however, and doubtless introduces a factor making for lower validity, particularly in the assumption that each state enjoys a



constant proportion of the total throughout the eleven-year period included in this study.

The contribution of this study lies more in the new technique which it employs for measuring the economic power of the states as it is concerned with the support of governmental services, particularly education. The application of this technique is less satisfactory than might be desired, because of the lack of essential economic data upon which to base the estimates. Nevertheless, it makes some contribution to the second field, provided its figures are used with the caution recommended. Further investigations in the field of this dissertation, which use data not now available and which employ more extensive resources than were at hand in the case of this study, are to be desired.

## CHAPTER VIII

### A MEASURE OF THE ABILITY OF THE VARIOUS STATES TO RAISE TAX REVENUE FOR THE SUPPORT OF EDUCATION

THE preceding chapters of this investigation presented estimates of the tax revenue which the forty-eight states could have raised during the period 1922-1932 under a tax system based on the Model Plan of State and Local Taxation. In this chapter and subsequent chapters the study will be concerned with the relative ability of the states to support education. By ability to support education is meant the ratio between tax revenue available for educational expenditure and educational need, that is, the size of the educational task to be performed.

The data of the preceding chapters estimate the ability of the several states to raise tax revenue to support all governmental activities which the people of these states deem proper to be financed by state and local taxation. In studying the ability of a state to finance any given activity, the question properly arises: How much or what part of the total tax-raising power of the state should reasonably be devoted to the support of that activity? This study, therefore, will first seek to discover a practical means for determining what part of the total tax-raising ability of the states can reasonably be expected to be devoted to the support of public education. When such a measure is found, it will be applied to the total tax-raising ability of the various states, as shown in the preceding chapters, to determine the number of dollars which each state could have raised under the tax plan of this study for the support of public education. Indices of the relative ability of the states to finance education will then be calculated. Accordingly, this chapter will be concerned with determining the part of the total tax-raising ability of the various states which can reasonably be expected to be devoted to educational support.

Chapter IX will be concerned with the application of this measure to the total tax revenue of the various states to find the amount

which education can justly claim for its support. It will also use this information in relation to other data to determine the relative ability of the states to support education. Chapter X will offer certain conclusions which it is believed are justified by the data presented in the study.

At this point it is desirable to call attention to a problem which immediately arises in the consideration of the distribution of tax revenue for the support of various governmental enterprises. Although the tax revenue from such sources as automobile registration or the gasoline tax should be included in the total tax picture, should the automobile registration fee and the gasoline tax be omitted from the total collections before a distribution is made to the various governmental activities?

Some may say that the sole justification of the automobile license fee, as well as the gasoline tax, lies in the increase in expenditures for highway improvement and extension, since no part of this increase in expenditures can be attributed to any factor other than the demands of the automobile.<sup>1</sup> This being the case, some would argue, the automobile tax is a special tax the justification of which rests on a special service provided.

Others, although agreeing that these are two sources of special taxation for a special service rendered, may say that a perfect correlation does not exist between the benefit which motor vehicle owners and operators receive and highway expenditures.<sup>2</sup> They would argue that homes, farms, other property, and business have profited appreciably from highway expenditures by means of increased value or increased volume of business due directly to highway maintenance and improvement. Such increase in value or volume of business, they would say, may or may not have any relation to the ownership or operation of motor vehicles by the individuals receiving such benefit. They would argue that, although the automobile is the most definite expression of the demand for highway expenditures, the economic system, being considerably broader than motor vehicle ownership or operation, has adjusted itself in terms of the benefits afforded by public highways.

<sup>1</sup> Charles E. Marvin, Jr., "A Technical Basis for Apportioning Motor Vehicle Taxes," *Public Roads* (May 1930), Vol. 11, No. 3.

<sup>2</sup> This is the verdict expressed by the American people by way of the amount of taxes collected from automobile registration fees and the gasoline tax. Rarely, if ever, do such tax collections equal highway expenditures, the balance being made up from the general tax collections.

A third group may contend that, while highway expenditures are directly caused by the demands of motor vehicles, highway improvements have had the effect of lessening railroad traffic—both freight and passenger—and consequently have reduced the value of taxable property owned by railroad companies. They would propose that motor vehicle owners and operators be taxed not only in accord with the special benefit provided, but also in proportion to the degree to which automobile owners and operators have lessened the amount of tax revenue collectable from, say, the railroads.

The foregoing is sufficient to demonstrate some of the problems involved in considering the tax on motor vehicle owners and operators which a given state could levy equitably, as well as whether or not the amount of taxes collected from these two special sources of taxation should be subtracted from the total tax collections before distributing the total collections among the various governmental activities. If such tax revenue is subtracted from the total before determining the portion of the total which could reasonably be expected to be devoted to education, certain assumptions are involved. If, on the other hand, such tax revenue is not omitted, other assumptions must be accepted. Each alternative will be discussed briefly.

Under the former alternative, the procedure would assume that by omitting such tax revenue the problem was satisfactorily settled. In other words, the assumption involved would be that the proportion of highway expenditures raised by the motor vehicle license fee and the gasoline tax, under existing tax plans, was the proper proportion in each state and that some other part or parts of the tax structure should make up the deficit in the same proportion in each state as it did during the years 1922 to 1932. However, most tax experts feel that the proportion of highway expenditures which automobile owners and operators should pay has not as yet been determined satisfactorily. Also, the ratio between highway expenditures in the various states and the amount of tax revenue collected from the automobile license fee and the gasoline tax varied considerably during the decade 1922-1932.

If the latter alternative were accepted and such tax revenue not subtracted from the total before determining a reasonable share for education, the assumption involved would depend upon, first, the procedure for determining the amount of tax revenue to be paid by automobile owners and operators and, second, the technique for

determining the portion of the total tax collections which education could reasonably claim. The procedure used to determine the automobile license fee and the gasoline tax was based on the average registration fee and the average gasoline tax. Thus, if all states had required an automobile registration fee and levied a gasoline tax during 1922 to 1932, the amount of such taxes under the tax plan used in the present study would have equalled the amount collected under existing tax plans. This being the case, such amounts could have been either omitted or included without affecting the result. That is, the measure proposed in this chapter for determining the portion of the total tax revenue which education could reasonably claim would have been increased in size, but the total to which it was applied would have been reduced accordingly. But not all states levied a gasoline tax during the earlier years of the study. The assumption involved, therefore, is that the states which did not levy such a tax should have done so. The amount of tax is immaterial, since the weighted average tax was used in Chapter V. The fact that all states did levy both a motor car registration fee and a gasoline tax in later years suggests that the forces which called for such taxes were present throughout the period 1922-1932, but that certain states were slower than others in making the necessary provisions.

The present investigator felt the latter alternative to be more tenable. The tax revenue from the motor vehicle registration fee and the gasoline tax, therefore, was included.<sup>3</sup>

The problem of determining a just division of the available resources of state and local government among the activities of these units in such a way as to harmonize incomes with needs, is a complex one. An adequate consideration of the subject would involve, among other things, a knowledge of the relative needs of the people of the several states for each governmental activity; in other words, the two indispensable elements in the ability of the states to support each of their governmental responsibilities are ability to raise tax revenue and the needs of the people for each governmental activity.

It is outside the scope of this study to conduct the extensive in-

<sup>3</sup> However, Chapter IX shows the results obtained by omitting the automobile license fee and the tax on motor fuel before studying the relative ability of the states to support education. According to the data presented in Chapter IX, the question of omitting or including the gasoline tax and the automobile license fee in the present study appears to be of very little importance in so far as the results are concerned.

vestigation necessary to arrive at a wholly satisfactory and scientific measure of that part of the total state and local tax collections which could reasonably be devoted to education. It was necessary, however, to arrive at some practical and reasonable working hypothesis as a basis for calculating the percentage of total tax revenue which should be allocated to education. The hypothesis adopted for this purpose is that the decision of the people, or actual practice, during the period 1922-1932 as to the proportion of tax revenue allocated to education offers a defensible basis for calculation.

The procedure in the present chapter, therefore, will be: First, to obtain data which show the total amount of tax revenue which the various states and local tax units actually collected from 1922 to 1932; second, to secure similar data which show the total appropriation from taxation for education by these governmental units and to add to this the cost of the state department of education in the various states, which is not shown in the appropriation data;<sup>4</sup> and third, to calculate the per cent which the educational appropriation from taxation plus the cost of the state departments of education was of the total tax collections, in an effort to find the central tendency in this respect. When this central tendency is found, it will be accepted as the most appropriate measure available.

The desirability of using the revenue receipts from appropriations and taxation can readily be seen. In the first place, these amounts show the part of school support which comes directly from taxation and is, therefore, the amount of weight which the schools bear upon the state and local tax systems. During the various years, these amounts include approximately 94 per cent of the total revenue receipts for public education. (See Table 31.) The remain-

<sup>4</sup> The total amount spent on the activities of the state department of education in the various states is not solely a cost of public elementary and secondary education. The state departments of education have responsibilities for other phases of education such as higher education. However, these latter duties, under existing conditions, are relatively small when compared to those for elementary and secondary education. In other words, a small inconsistency is involved by including the cost of the state departments, but a much larger inconsistency would be involved by omitting such costs.

There is another small factor which should be included, namely, the contribution of the various states to elementary and secondary teacher pension and retirement funds. However, it is almost impossible to secure accurate data for this cost. According to Mort in *State Support for Public Education*, such contributions by the states in 1925 and in 1930 were less than one-half of 1 per cent of the total costs of public education.

TABLE 31  
REVENUE RECEIPT FOR PUBLIC EDUCATION, 1922-1932

Source	1922	1924	1926	1928	1930	1932	1922-1932
1	2	3	4	5	6	7	8
Permanent funds and lease of school lands	1.6	1.5	1.4	1.3	1.3	1.4	1.4
Appropriation and taxation .....	91.2	93.8	92.9	94.2	94.5	95.5	93.7
Federal aid and all other revenue receipts	7.2	4.7	5.7	4.5	4.2	3.1	4.9
Total .....	100.0	100.0	100.0	100.0	100.0	100.0	100.0

The data in columns 2 to 7 are taken from various issues of the United States Department of the Interior, Office of Education, *Biennial Survey of Education*.

ing sources of revenue receipts are: permanent funds and leases of school lands; Federal aid and various other sources such as subsidies from educational foundations, which contributed during the various years approximately 1.4 per cent and 4.9 per cent, respectively. These latter sources of educational support are outside the scope of any state and local tax system and therefore are not to be considered a part of the measure of that portion of state and local tax revenue which could reasonably be expected to be devoted to education. The existence of these sources of revenue is probably not based upon the use of any particular system of state and local taxation but upon other fundamental considerations.

Table 32 shows the per cent of total tax collections of state and local tax units which was appropriated to education, under existing tax plans, during the even-numbered years from 1922 to 1932. The odd-numbered years are not included because the educational appropriations are not readily obtainable for those years. There appears to be no clear-cut verdict on the part of all the states in any group of states of similar characteristics that the percentage of total tax revenue allocated to school support should be substantially higher or lower than the percentage for the country as a whole. Table 32 shows that various groups of states, such as the industrial states and agricultural states, scatter on both sides of the central tendency of the forty-eight states. The following data are offered as suggesting that detailed investigation of the percentage of total tax collections which education could reasonably claim would not vary appreciably from 31.27, the average for the country. The states were ranked from highest to lowest on each item considered. They were then studied in groups of twelve. That is, the percentage of total tax collections devoted to education under existing tax plans during the decade 1922-1932 was determined for the group of

TABLE 32  
PER CENT TAX REVENUE APPROPRIATED FOR EDUCATION BY STATE AND  
LOCAL TAX UNITS IS OF TOTAL STATE AND LOCAL TAX COLLECTIONS

State	1922	1924	1926	1928	1930	1932	1922-1932
1	2	3	4	5	6	7	8
North Dakota	45.67	53.42	57.34	36.09	33.25	33.88	43.40
Utah	50.28	41.71	43.40	44.36	41.38	40.00	43.21
Kansas	50.91	50.29	44.30	34.34	34.94	36.87	41.19
New Mexico	38.24	38.80	41.85	36.73	39.24	40.12	39.16
Montana	43.26	37.48	39.93	38.20	35.66	35.04	38.03
Indiana	30.16	30.23	37.77	38.75	44.73	32.17	37.44
Iowa	41.00	36.27	46.06	36.48	34.68	30.03	37.26
West Virginia	43.38	38.87	36.48	37.11	36.68	32.68	37.14
Arizona	32.38	35.37	35.41	40.57	40.26	36.28	36.97
Missouri	46.43	46.60	32.20	28.32	32.12	38.55	36.37
Colorado	35.93	34.86	36.21	35.71	37.57	37.54	36.35
Rhode Island	30.13	28.47	37.60	42.10	33.25	42.52	36.17
Wyoming	41.15	37.69	38.39	33.70	33.63	33.02	35.06
South Dakota	39.64	38.19	37.91	34.20	32.39	32.83	35.65
Nebraska	38.78	36.01	35.56	36.72	32.10	33.95	35.45
Oklahoma	50.44	34.64	35.58	31.36	32.58	32.15	35.18
Pennsylvania	32.41	37.70	35.53	34.06	33.12	35.80	34.93
North Carolina	37.94	41.06	33.52	33.35	33.67	33.01	34.02
Idaho	40.71	39.27	36.18	35.99	35.77	23.51	34.91
Ohio	33.70	36.41	37.16	36.26	35.69	30.67	34.91
Alabama	30.97	34.70	33.76	32.63	33.01	35.56	33.52
New Jersey	35.23	31.46	30.39	29.64	29.22	35.67	31.61
Arkansas	40.18	33.46	32.75	29.21	25.36	33.37	31.41
South Carolina	31.68	34.48	33.30	30.08	29.04	31.34	31.41
Delaware	52.06	30.30	26.51	32.64	28.28	27.19	31.32
Connecticut	30.00	33.16	31.35	32.66	29.86	30.56	31.19
Illinois	34.40	38.64	37.78	33.86	18.35	26.91	30.78
California	33.23	33.37	31.44	31.22	23.95	31.05	30.14
Tennessee	31.24	30.44	26.32	33.11	28.40	28.84	29.61
Washington	36.13	32.60	33.16	27.01	25.99	25.05	29.56
Michigan	28.43	30.41	29.58	29.12	28.48	30.00	29.30
Maryland	30.64	27.28	29.14	27.71	28.89	32.17	29.18
Virginia	36.60	30.97	29.78	26.54	26.25	27.99	29.06
Kentucky	28.86	30.99	26.80	29.22	27.23	31.52	29.02
Minnesota	30.19	20.95	29.70	29.46	27.00	28.02	28.99
Nevada	28.67	27.88	28.13	27.06	30.22	28.69	28.63
Vermont	33.50	28.74	31.32	27.30	25.48	25.63	28.24
New York	28.04	26.88	25.45	28.14	27.92	31.74	28.23
Texas	32.96	23.90	24.02	24.26	29.31	33.36	27.99
Mississippi	26.78	22.82	21.13	30.29	28.98	36.91	27.89
Massachusetts	26.44	28.92	27.71	29.67	27.25	26.24	27.69
New Hampshire	27.92	32.25	31.16	27.53	25.69	23.61	27.57
Maine	29.68	29.66	28.40	25.72	25.66	24.64	27.01
Georgia	26.51	27.23	28.03	26.51	25.43	26.01	26.52
Wisconsin	27.83	29.58	28.52	26.60	24.47	23.73	26.50
Louisiana	28.45	26.12	24.37	26.85	25.38	25.06	25.91
Oregon	28.85	25.22	23.42	31.06	21.87	25.21	25.75
Florida	18.57	19.28	17.43	18.94	22.31	25.30	20.44
United States	32.90	32.94	31.66	31.09	29.16	31.13	31.27

twelve states which ranked the highest on each of the items studied. Similar data were calculated for each of the remaining three groups of twelve states. The percentage of total tax collections devoted to education by these groups of states, as well as the year or years



TABLE 33  
RANK OF STATES ACCORDING TO PER CENT TAX REVENUE APPROPRIATED  
FOR EDUCATION BY STATE AND LOCAL TAX UNITS IS OF TOTAL STATE  
AND LOCAL TAX COLLECTIONS

State	1922	1924	1926	1928	1930	1932	1922-1932
1	2	3	4	5	6	7	8
North Dakota .....	6	1	1	9	15	15	1
Utah .....	4	4	4	1	2	3	2
Kansas .....	2	2	3	15	10	7	3
New Mexico .....	15	9	5	7	4	2	4
Montana .....	8	14	6	5	9	12	5
Indiana .....	33	7	10	4	1	21	6
Iowa .....	9	16	2	10	11	30	7
West Virginia .....	7	8	13	6	6	20	8
Arizona .....	27	18	19	3	3	8	9
Missouri .....	5	3	25	35	20	4	10
Colorado .....	19	19	14	13	5	5	11
Rhode Island .....	34	39	11	2	14	1	12
Wyoming .....	11	13	7	18	13	18	13
South Dakota .....	13	11	8	16	19	19	14
Nebraska .....	14	17	17	8	21	13	15
Oklahoma .....	3	21	16	24	18	22	16
Pennsylvania .....	26	12	18	14	16	9	17
North Carolina .....	16	5	21	19	12	14	18
Idaho .....	12	6	15	12	7	48	19
Ohio .....	22	15	12	11	8	28	20
Alabama .....	30	20	20	23	17	11	21
New Jersey .....	20	28	30	30	25	10	22
Arkansas .....	10	23	24	33	43	17	23
South Carolina .....	28	22	22	28	26	26	24
Delaware .....	1	33	41	22	31	36	25
Connecticut .....	35	25	27	21	23	29	26
Illinois .....	21	10	9	17	48	37	27
California .....	24	24	26	25	45	27	28
Tennessee .....	29	31	42	20	30	32	29
Washington .....	18	26	23	41	37	44	30
Michigan .....	41	32	33	34	29	31	31
Maryland .....	31	41	34	38	28	25	32
Virginia .....	17	30	31	44	36	35	33
Kentucky .....	37	29	40	32	34	24	34
Minnesota .....	32	34	32	31	35	34	35
Nevada .....	39	40	37	37	22	33	36
Vermont .....	23	38	28	40	40	40	37
New York .....	42	43	43	36	32	23	38
Texas .....	25	46	45	47	24	16	39
Mississippi .....	45	47	47	27	27	6	40
Massachusetts .....	47	37	39	29	33	38	41
New Hampshire .....	43	27	29	39	38	47	42
Maine .....	36	35	36	46	39	45	43
Georgia .....	46	42	38	45	41	39	44
Wisconsin .....	44	36	35	43	44	46	45
Louisiana .....	40	44	44	42	42	43	46
Oregon .....	38	45	46	26	47	42	47
Florida .....	48	48	48	48	46	41	48

covered by the data concerning the particular item referred to, is as follows: per cent of total population engaged in agriculture (1930) 32.60, 32.74, 31.05, and 30.67; per cent of total population engaged in manufacture, mechanical industries, and mining (1930) 30.72,

30.88, 31.56, and 33.68; population per square mile (1930) 31.09, 30.73, 30.80, and 35.53; per cent school enrollment was of total population of the state (1922-1932) 32.27, 32.40, 32.27, and 29.76; per cent school enrollment was of population aged 5 to 17 years (1922-1932) 32.01, 33.18, 29.54, and 31.79; per cent public school enrollment was of total public, private, and parochial school enrollment (1922-1932) 31.97, 30.79, 34.20, and 28.83; average number of days schools were in session (1922-1932) 30.22, 32.81, 36.81, and 28.58; seventeen states which maintain a dual school system (1922-1932) 30.43.

In view of the data presented in Table 32, it makes very little difference which of the several possible choices is made in determining that portion of the total state and local tax collections which could reasonably be expected to be devoted to the support of education. If the average for the forty-eight states is taken, the result is 31.27 per cent. If the twelve central states as determined by rank order—numbers 19 to 30—are taken as a group, the average is 31.66 per cent, or a variation of 0.39 from 31.27, the average for the country as a whole. By selecting fewer states around the central tendency, similar results are obtained. If the six central states are taken, the average is 31.17, or a variation of 0.10 from 31.27. If the four central states are taken as a group, the per cent is 31.29, or a variation of 0.02 from the average for the forty-eight states. If the two central states—numbers 24 and 25—are taken, the result is 31.39 per cent, or a variation of 0.12 from 31.27.

Table 34 presents the results of the foregoing choices, together with the variation from the average for the country as a whole.

In view of the data presented in Tables 32 and 34, 31.27, or the average for the forty-eight states during the decade 1922-1932, was employed as the percentage of the total state and local tax revenue which could reasonably be expected to be devoted to the support of a minimum program of public elementary and secondary education in the several states.

The significance of accepting the foregoing measure as a working hypothesis for purposes of the present study should be considered more fully. This procedure accepts the decision of the people of the country as a whole concerning the relative value they place upon the public schools as compared to all state and local governmental activities. This does not mean that if the people of a given

TABLE 34  
PER CENT OF TOTAL STATE AND LOCAL TAX COLLECTIONS APPROPRIATED  
FOR THE SUPPORT OF PUBLIC EDUCATION BY SPECIFIED GROUPS OF  
STATES, 1922-1932

Alternative	Average	Variation from 31.27, the Average for the Forty-eight States
Forty-eight states .....	31.27	0.00
Twelve central states when determined by rank order .....	31.66	0.39
Eight central states .....	30.95	0.32
Six central states .....	31.17	0.10
Four central states .....	31.29	0.02
Two central states .....	31.39	0.12

state or of the country as a whole were able to raise more tax revenue than they did under existing tax systems that a better program of education would not be offered. Rather, it means that the people have placed a certain value on education as compared to other governmental activities and set this relative value at 31.27 per cent of the total state and local tax collections during the years 1922-1932. If the foregoing interpretation be true, the people would place the same relative value on education under an acceptable tax system as they did under, say, an outworn tax plan, provided the total tax collections remained approximately equal under the two conditions. It is recognized, however, that if an acceptable system of state and local taxation replaces an outworn one, even though the total tax collections under the two plans are approximately equal, a foundation is laid for a better educational system. That is, proper provision for local initiative under an acceptable tax plan gives education a distinct advantage over the conditions prevailing under an outworn tax structure. Nevertheless, this advantage would be realized in actual practice only by increasing the amount of tax revenue.

The results obtained by using 31.27 per cent of the total tax revenue as the portion which education could justly claim are the same as those which would have been obtained if total tax resources or some other constant per cent of the total had been used.

Preference has been expressed in favor of Mort's index of educational need because it is a refinement of average daily attendance, which heretofore has been commonly used to measure the educational load. It takes account of varying costs of elementary and secondary education, sparsity of population, and varying costs of living in the states.

## CHAPTER IX

### ABILITY OF THE VARIOUS STATES TO RAISE TAX REVENUE FOR THE SUPPORT OF EDUCATION, AND THEIR RELATIVE ABILITY TO FINANCE EDUCATION

IN CHAPTER VIII practical means were arrived at for determining the part of the total tax-raising power of the various states which could reasonably be expected to be devoted to the support of a program of public education. The purposes of this chapter are to apply the foregoing measure to the total tax-raising ability of the various states and to determine the relative ability of the states to support education.

Table 35 shows the actual number of dollars of potential tax revenue in the various states available, under the tax plan used in this study, for the support of public education. The data in Table 35 were obtained by applying the measure found in Chapter VIII to the potential tax-raising ability of the states as shown in Chapter VII.

In studying the data in Table 35, one should have in mind the fact that the sales tax was not recommended by the National Tax Association as a permanent part of the Model Tax Plan. Some, however, will be interested to see what effect the sales tax would have on the relative ability of the states to raise tax revenue and to support education. Accordingly, three alternatives were presented in Chapter VII: (1) The ability of the states to raise tax revenue under a system of state and local taxation based on the Model Tax Plan; (2) the ability of the states to raise tax revenue under this tax plan plus a retail sales tax at 1 per cent; and (3) the ability of the states to raise tax revenue under a retail sales tax at 2 per cent. Table 35 shows the relative ability of the states to support education under each of the three foregoing alternatives. The relative ability of the states to support education, however, involves both the amount of revenue available for education and the educational need. Various measures of the educational need of

the states have been used in former studies. The most scientific measure of need is the one recently developed by Mort.<sup>1</sup> Table 35, however, uses other measures of educational need as well as Mort's. The relative ability of the states to support education under a tax system based on the Model Tax Plan and using Mort's scientific measure of educational need is shown for alternate years from 1922 to 1932, as well as for the entire decade considered as a whole. The ability of the states to support education, provided a retail sales tax is included at 1 per cent, and at 2 per cent, is shown for the period 1922-1932 considered as a whole. The measures of educational need other than the one developed by Mort are used for the period 1922-1932 as a whole.

Table 35 also shows the ability of each state per unit of educational need. This information was obtained by dividing the number of dollars available for the support of education in the several states by the various measures of educational need, and makes it possible to answer the important question: What is the relative ability of the states to support a given program of public elementary and secondary education, provided they adopt an acceptable system of state and local taxation? By using the total number of dollars of potential ability behind each unit of educational need in the poorest state as a base of 1.00, and by dividing similar data for the various states by this amount, indices of relative ability to support education can be found. Table 35 shows the indices obtained by this procedure.

The indices of relative ability in Table 35 indicate that if the states set their tax systems in order by adopting a system of state and local taxation based on the Model Tax Plan as prepared by the Committee of the National Tax Association in October 1933, wide variations in ability to support education would exist. If Mort's measure is used to determine the educational needs of the several states, the variation in relative ability of the states to support elementary and secondary education during the decade 1922-1932 ranged from 1.00 to 6.14. If average daily attendance is taken as the measure of educational need, the relative ability of the states to support education during the eleven-year period 1922-1932 varied from 1.00 to 7.66. By using population aged 5 to 17 years as the

<sup>1</sup> This measure is based on average daily attendance. Adjustments were made for cost of living, sparsity of population, and cost of secondary education as compared to that of elementary education.

TABLE

RELATIVE ABILITY OF THE STATES TO SUPPORT EDUCATION,

State	1922-				
	Tax Revenue for Education*	Units of Educational Need*	Revenue per Unit of Educational Need	Relative Ability	Rank
1	2	3	4	5	6
Alabama .....	\$ 88,495	3,762	\$ 23.52	1.27	47
Arizona .....	38,091	659	57.80	3.11	20
Arkansas .....	76,329	2,917	26.17	1.41	45
California .....	541,795	7,587	71.40	3.85	11
Colorado .....	95,212	1,887	50.46	2.72	29
Connecticut .....	186,056	2,155	86.34	4.65	6
Delaware .....	22,101	292	75.69	4.08	9
Florida .....	92,174	1,979	46.58	2.51	32
Georgia .....	118,382	4,521	26.18	1.41	44
Idaho .....	39,817	937	42.49	2.29	34
Illinois .....	762,194	10,001	76.21	4.11	8
Indiana .....	281,414	5,161	54.53	2.94	27
Iowa .....	305,871	4,407	69.41	3.74	13
Kansas .....	190,342	3,785	50.29	2.71	30
Kentucky .....	108,001	3,550	30.42	1.64	42
Louisiana .....	100,767	2,655	37.95	2.04	37
Maine .....	66,524	1,164	57.15	3.08	24
Maryland .....	132,840	1,880	70.66	3.81	12
Massachusetts .....	464,989	5,373	86.54	4.66	5
Michigan .....	398,691	6,276	63.53	3.42	16
Minnesota .....	257,119	4,209	61.09	3.29	18
Mississippi .....	63,685	3,432	18.56	1.00	48
Missouri .....	309,253	5,403	57.24	3.08	23
Montana .....	60,326	1,036	58.23	3.14	19
Nebraska .....	159,355	2,838	56.15	3.03	25
Nevada .....	16,284	143	113.87	6.14	1
New Hampshire .....	43,637	528	82.65	4.45	7
New Jersey .....	415,064	4,781	86.82	4.68	4
New Mexico .....	24,072	694	34.69	1.87	38
New York .....	1,487,319	14,989	99.23	5.35	2
North Carolina .....	137,930	5,146	26.80	1.44	43
North Dakota .....	67,612	1,579	42.82	2.31	33
Ohio .....	635,890	9,290	68.45	3.69	14
Oklahoma .....	129,866	4,193	30.97	1.67	41
Oregon .....	102,188	1,671	61.15	3.29	17
Pennsylvania .....	960,064	12,755	75.27	4.06	10
Rhode Island .....	67,150	767	87.55	4.72	3
South Carolina .....	68,154	2,843	23.97	1.29	46
South Dakota .....	83,214	1,453	57.27	3.09	22
Tennessee .....	129,922	3,911	33.22	1.79	39
Texas .....	332,937	10,131	32.86	1.77	40
Utah .....	42,502	1,074	39.57	2.13	36
Vermont .....	25,931	511	50.75	2.73	28
Virginia .....	147,978	3,680	40.21	2.17	35
Washington .....	167,961	2,522	66.60	3.59	15
West Virginia .....	149,107	2,663	55.99	3.02	26
Wisconsin .....	245,823	4,289	57.31	3.09	21
Wyoming .....	21,548	442	48.75	2.63	31
United States .....	\$10,461,886	177,921	\$ 58.80		

\* In thousands.

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ACCORDING TO VARIOUS MEASURES OF EDUCATIONAL NEED

1932

Average Daily Attendance*	Revenue per Average Daily Attendance	Relative Ability	Rank	Population Aged 5 to 17*	Revenue per Person Aged 5 to 17	Relative Ability	Rank
7	8	9	10	11	12	13	14
2,717	\$ 32.57	1.27	47	4,922	\$ 17.98	1.05	47
393	96.92	3.78	20	669	56.94	3.32	28
2,099	36.36	1.42	45	3,532	21.61	1.26	44
4,799	112.88	4.41	8	5,541	97.76	5.70	2
1,108	85.93	3.36	26	1,554	61.27	3.57	24
1,559	119.34	4.66	4	2,276	81.75	4.76	6
205	107.81	4.21	11	332	66.57	3.88	17
1,403	63.00	2.46	34	1,988	46.37	2.70	35
3,239	36.55	1.43	44	5,745	20.61	1.20	45
573	69.49	2.71	33	822	48.44	2.82	33
6,863	111.06	4.34	10	10,225	74.54	4.34	10
3,487	80.70	3.15	29	4,514	62.34	3.63	23
2,736	111.79	4.37	9	3,654	83.71	4.88	4
2,167	87.84	3.43	23	2,842	66.97	3.90	16
2,550	42.35	1.65	42	4,388	24.61	1.43	42
1,938	52.00	2.03	39	3,538	28.48	1.66	41
808	82.33	3.21	28	1,139	58.41	3.40	26
1,327	100.11	3.91	16	2,305	57.63	3.36	27
3,873	120.06	4.69	3	5,795	80.24	4.68	8
4,403	90.55	3.54	22	6,326	63.02	3.67	20
2,706	95.02	3.71	21	3,905	65.84	3.84	18
2,487	25.61	1.00	48	3,711	17.16	1.00	48
3,521	87.83	3.43	24	5,156	59.98	3.50	25
608	99.22	3.87	18	959	62.91	3.67	21
1,602	99.47	3.88	17	2,142	74.40	4.34	11
83	196.19	7.66	1	104	156.58	9.12	1
380	114.83	4.48	6	628	69.49	4.05	15
3,653	113.62	4.44	7	5,429	76.45	4.46	9
408	59.00	2.30	36	718	33.53	1.95	38
10,410	142.87	5.58	2	15,741	94.49	5.51	3
3,765	36.63	1.43	43	5,733	24.06	1.40	43
880	76.83	3.00	30	1,287	52.53	3.06	30
6,453	98.54	3.85	19	9,023	70.47	4.11	13
2,738	47.43	1.85	40	4,232	30.69	1.79	39
967	105.68	4.13	13	1,223	83.56	4.87	5
9,491	101.16	3.95	15	14,915	64.37	3.75	19
574	116.99	4.57	5	955	70.31	4.10	14
2,086	32.67	1.28	46	3,612	18.87	1.10	46
810	102.73	4.01	14	1,137	73.19	4.27	12
2,818	46.10	1.80	41	4,459	29.14	1.70	40
6,126	54.35	2.12	38	9,358	35.58	2.07	36
698	60.89	2.38	35	908	46.81	2.73	34
340	76.27	2.98	31	516	50.25	2.93	31
2,616	56.57	2.21	37	4,338	34.11	1.99	37
1,589	105.70	4.13	12	2,092	80.29	4.68	7
1,961	76.04	2.97	32	2,969	50.22	2.93	32
2,822	87.11	3.40	25	4,320	56.90	3.32	29
255	84.50	3.30	27	343	62.82	3.66	22
121,154	\$ 86.35			182,020	\$ 57.48		

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TABLE 35 (Continued)

State	1922					1924				
	Tax Revenue for Education*	Units of Edu- cational Need*	Re- venue Per Unit of Educa- tional Need	Re- la- tive Abil- ity	Rank	Tax Revenue for Education*	Units of Educa- tional Need*	Re- venue Per Unit of Educa- tional Need	Re- la- tive Abil- ity	Rank
	15	16	17	18	19	20	21	22	23	24
Alabama .....	\$ 10,672	506	\$17.91	1.23	47	\$ 12,092	580	\$20.85	1.25	47
Arizona .....	4,461	85	52.48	3.61	17	5,177	91	56.89	3.41	17
Arkansas .....	9,461	507	18.66	1.28	45	10,813	495	21.84	1.31	45
California .....	62,309	949	65.66	4.52	8	73,391	1,156	63.49	3.81	12
Colorado .....	11,946	286	41.77	2.87	30	13,370	308	43.41	2.60	30
Connecticut .....	22,177	318	69.74	4.80	6	25,448	324	78.54	4.71	4
Delaware .....	2,540	42	60.48	4.16	12	2,939	45	65.31	3.92	11
Florida .....	9,955	238	41.83	2.88	29	12,087	263	45.96	2.76	28
Georgia .....	14,385	735	19.57	1.35	44	16,419	754	21.78	1.31	46
Idaho .....	4,869	149	32.68	2.25	35	5,485	143	38.36	2.30	33
Illinois .....	96,147	1,488	64.61	4.45	9	106,495	1,569	67.87	4.07	9
Indiana .....	34,938	718	48.66	3.35	20	39,278	806	48.73	2.92	25
Iowa .....	39,338	723	54.40	3.74	16	42,489	799	59.93	3.59	15
Kansas .....	24,337	584	41.67	2.87	31	25,793	627	41.14	2.47	32
Kentucky .....	13,468	586	22.98	1.58	42	15,382	571	26.94	1.62	41
Louisiana .....	12,383	395	31.35	2.16	36	14,122	408	34.61	2.07	37
Maine .....	8,109	181	44.80	3.08	26	9,185	187	49.12	2.94	23
Maryland .....	16,653	272	61.22	4.21	11	18,702	284	65.85	3.95	10
Massachusetts .....	57,901	785	73.76	5.08	5	64,204	827	77.63	4.65	6
Michigan .....	46,681	793	58.87	4.05	13	54,531	927	58.83	3.53	16
Minnesota .....	31,990	681	46.98	3.23	22	35,605	666	53.46	3.21	19
Mississippi .....	7,672	528	14.53	1.00	48	8,806	528	16.68	1.00	48
Missouri .....	38,151	863	44.21	3.04	27	42,758	871	49.09	2.94	24
Montana .....	7,451	164	45.43	3.13	24	8,325	162	51.39	3.08	20
Nebraska .....	20,502	454	45.16	3.11	25	22,018	456	48.29	2.90	27
Nevada .....	2,205	20	110.25	7.59	1	2,260	21	107.62	6.45	1
New Hampshire .....	5,348	79	67.70	4.66	7	5,995	82	73.11	4.38	7
New Jersey .....	49,327	665	74.18	5.11	4	55,904	719	77.75	4.66	5
New Mexico .....	2,886	94	30.70	2.11	38	3,231	108	29.92	1.79	38
New York .....	182,949	2,135	85.69	5.90	2	206,466	2,278	90.63	5.43	2
North Carolina .....	16,439	720	22.83	1.57	43	19,231	753	25.54	1.53	43
North Dakota .....	8,705	283	30.76	2.12	37	9,269	256	36.21	2.17	34
Ohio .....	77,129	1,360	56.71	3.90	14	88,158	1,449	60.84	3.65	14
Oklahoma .....	16,047	645	24.88	1.71	41	17,645	669	26.38	1.58	42
Oregon .....	12,645	242	52.25	3.60	18	14,316	254	56.36	3.38	18
Pennsylvania .....	118,891	1,907	62.34	4.29	10	134,310	1,976	67.97	4.07	8
Rhode Island .....	8,289	111	74.68	5.14	3	9,204	117	78.67	4.72	3
South Carolina .....	8,332	458	18.19	1.25	46	9,567	432	22.15	1.33	44
South Dakota .....	10,413	223	46.70	3.21	23	11,551	235	49.15	2.95	22
Tennessee .....	15,778	622	25.37	1.75	40	17,993	613	29.35	1.76	39
Texas .....	40,027	1,528	26.20	1.80	39	45,987	1,601	28.72	1.72	40
Utah .....	5,223	157	33.27	2.29	34	5,943	166	35.80	2.15	35
Vermont .....	3,255	85	38.29	2.64	32	3,676	86	42.74	2.56	31
Virginia .....	18,089	543	33.31	2.29	33	20,545	580	35.42	2.12	36
Washington .....	20,603	368	55.99	3.85	15	23,886	385	62.04	3.72	13
West Virginia .....	18,764	389	48.24	3.32	21	21,048	414	50.84	3.05	21
Wisconsin .....	30,353	621	48.88	3.36	19	33,449	692	48.32	2.90	26
Wyoming .....	2,666	62	43.00	2.96	28	3,189	70	45.56	2.73	29
United States .....	\$1,282,849	26,437				\$1,447,728	27,713			

\* In thousands.



TABLE 35 (Continued)

State	1926					1928				
	Tax Revenue for Education*	Units of Edu- cational Need*	Re- venue per Unit of Educa- tional Need	Re- lative Abil- ity	Rank	Tax Revenue for Education*	Units of Edu- cational Need*	Re- venue per Unit of Educa- tional Need	Re- lative Abil- ity	Rank
25	26	27	28	29	30	31	32	33	34	35
Alabama .....	\$ 14,515	575	\$25.24	1.38	46	\$ 16,607	641	\$25.91	1.27	47
Arizona .....	6,054	102	59.35	3.25	19	7,171	115	62.36	3.05	22
Arkansas .....	12,569	482	26.08	1.43	45	14,165	484	29.27	1.43	45
California .....	85,913	1,236	69.51	3.80	12	103,376	1,304	79.28	3.88	11
Colorado .....	15,129	309	48.96	2.68	30	17,128	319	53.69	2.63	31
Connecticut .....	29,518	360	81.99	4.49	6	34,597	359	96.12	4.70	3
Delaware .....	3,457	46	75.15	4.11	9	4,222	50	84.44	4.13	8
Florida .....	17,581	336	52.32	2.86	27	17,649	373	47.32	2.32	33
Georgia .....	19,246	714	26.96	1.47	44	22,047	748	29.47	1.44	44
Idaho .....	6,554	153	42.84	2.34	33	7,421	157	47.27	2.31	34
Illinois .....	121,856	1,598	76.26	4.17	8	139,309	1,720	80.99	3.66	10
Indiana .....	45,011	881	51.09	2.79	28	51,172	891	57.43	2.81	28
Iowa .....	47,972	713	67.28	3.68	14	54,155	738	73.38	3.59	14
Kansas .....	29,738	623	47.73	2.61	31	34,337	625	54.94	2.60	30
Kentucky .....	17,307	528	32.78	1.79	40	19,611	598	32.79	1.60	42
Louisiana .....	16,456	408	40.33	2.21	35	18,472	444	41.60	2.04	38
Maine .....	10,664	189	56.42	3.09	22	11,776	194	60.70	2.97	24
Maryland .....	21,016	302	69.59	3.81	11	23,686	320	74.02	3.62	13
Massachusetts .....	74,772	903	82.80	4.53	5	85,220	908	93.85	4.59	5
Michigan .....	64,952	992	65.48	3.58	15	75,675	1,002	69.30	3.39	16
Minnesota .....	40,351	686	58.82	3.22	20	46,259	703	65.80	3.22	17
Mississippi .....	10,490	574	18.28	1.00	48	12,123	593	20.44	1.00	48
Missouri .....	49,347	912	54.11	2.96	23	56,748	904	62.77	3.07	20
Montana .....	10,357	167	62.02	3.39	17	10,973	172	63.80	3.12	19
Nebraska .....	24,896	473	52.63	2.88	26	28,405	477	59.68	2.92	25
Nevada .....	2,481	22	112.77	6.17	1	2,824	26	108.62	5.31	2
New Hampshire ..	6,924	87	79.59	4.35	7	8,039	89	90.33	4.42	7
New Jersey .....	65,370	771	84.79	4.64	4	75,884	824	92.09	4.51	6
New Mexico .....	3,757	114	32.96	1.80	39	4,413	102	43.26	2.12	36
New York .....	240,978	2,412	99.91	5.47	2	304,205	2,539	119.81	5.86	1
North Carolina ..	22,669	826	27.44	1.50	43	26,083	884	29.51	1.44	43
North Dakota ..	10,643	255	41.74	2.28	34	11,910	247	48.22	2.36	32
Ohio .....	103,449	1,531	67.57	3.70	13	118,119	1,557	75.96	3.71	12
Oklahoma .....	21,012	677	31.04	1.70	42	23,968	703	34.09	1.67	41
Oregon .....	16,426	274	59.95	3.28	18	18,488	284	65.10	3.18	18
Pennsylvania .....	153,745	2,081	73.88	4.04	10	176,182	2,139	82.37	4.03	9
Rhode Island .....	10,755	124	86.73	4.74	3	12,448	131	95.02	4.65	4
South Carolina ..	11,051	472	23.41	1.28	47	12,673	481	26.35	1.29	46
South Dakota .....	13,310	247	53.89	2.95	25	15,221	244	62.38	3.05	21
Tennessee .....	20,975	624	33.61	1.84	38	24,100	663	36.35	1.78	39
Texas .....	52,993	1,706	31.06	1.70	41	61,988	1,712	36.21	1.77	40
Utah .....	6,787	178	38.13	2.09	37	7,774	182	42.71	2.09	37
Vermont .....	4,115	81	50.80	2.78	29	4,720	84	56.19	2.75	29
Virginia .....	23,637	604	39.13	2.14	36	26,941	613	43.95	2.15	35
Washington .....	26,640	414	64.35	3.52	16	30,430	436	69.79	3.41	15
West Virginia .....	23,812	414	57.52	3.15	21	26,899	452	59.51	2.91	26
Wisconsin .....	39,511	733	53.90	2.95	24	45,021	725	62.10	3.04	23
Wyoming .....	3,465	73	47.47	2.60	32	4,011	68	58.99	2.89	27
United States ....	\$1,680,226	28,982				\$1,954,615	30,114			

\* In thousands.

TABLE 35 (Continued)

State	1930					1932				
	Tax Revenue for Education*	Units of Edu- cational Need*	Re- venue per Unit of Educa- tional Need	Re- la- tive Abil- ity	Rank	Tax Revenue for Education*	Units of Edu- cational Need*	Re- venue per Unit of Educa- tional Need	Re- la- tive Abil- ity	Rank
36	37	38	39	40	41	42	43	44	45	46
Alabama .....	\$ 17,902	658	\$27.34	1.20	47	\$ 16,617	712	\$23.34	1.20	47
Arizona .....	7,833	128	61.20	2.88	27	7,395	138	53.59	2.76	30
Arkansas .....	15,378	466	33.00	1.55	43	13,942	483	28.87	1.48	43
California .....	112,416	1,414	79.50	3.74	13	104,301	1,528	68.26	3.51	15
Colorado .....	10,363	324	59.76	2.81	30	18,276	341	53.60	2.76	29
Connecticut .....	38,050	385	98.83	4.66	5	36,355	409	88.89	4.57	4
Delaware .....	4,634	52	89.12	4.20	8	4,310	57	75.61	3.89	11
Florida .....	17,888	365	49.01	2.31	33	17,014	404	42.11	2.17	34
Georgia .....	23,716	758	31.29	1.47	44	22,569	812	27.79	1.43	44
Idaho .....	7,948	164	48.46	2.28	34	7,540	171	44.09	2.27	33
Illinois .....	155,044	1,783	86.96	4.10	9	143,344	1,843	77.78	4.00	8
Indiana .....	56,642	888	63.79	3.00	25	54,373	977	55.65	2.86	27
Iowa .....	62,052	748	82.96	3.91	11	59,875	776	77.16	3.97	9
Kansas .....	39,050	642	60.83	2.87	28	37,087	684	54.22	2.79	28
Kentucky .....	21,750	610	35.66	1.68	42	20,482	657	31.18	1.60	42
Louisiana .....	20,199	484	41.73	1.97	37	19,133	516	37.08	1.91	37
Maine .....	14,013	200	70.07	3.30	19	12,777	213	59.99	3.08	21
Maryland .....	26,961	338	79.77	3.76	12	25,823	364	70.94	3.65	12
Massachusetts .....	93,603	947	98.84	4.66	4	89,289	1,003	89.02	4.58	3
Michigan .....	81,512	1,207	67.53	3.18	22	75,339	1,265	59.56	3.06	22
Minnesota .....	52,210	716	72.92	3.43	17	50,704	757	66.98	3.44	16
Mississippi .....	12,885	607	21.23	1.00	48	11,709	602	19.45	1.00	48
Missouri .....	62,027	903	68.69	3.24	21	60,222	950	63.39	3.26	18
Montana .....	11,803	181	65.21	3.07	24	11,418	190	60.09	3.00	20
Nebraska .....	32,371	466	69.47	3.27	20	31,104	512	60.75	3.12	19
Nevada .....	3,335	26	128.27	6.04	1	3,180	28	113.57	5.84	1
New Hampshire .....	8,753	93	94.12	4.43	7	8,578	98	87.53	4.50	6
New Jersey .....	87,229	871	100.14	4.72	3	81,361	931	87.39	4.49	7
New Mexico .....	5,053	131	38.57	1.82	39	4,730	145	32.62	1.68	40
New York .....	294,961	2,721	108.40	5.11	2	260,891	2,904	89.84	4.62	2
North Carolina .....	27,384	937	29.23	1.38	45	26,124	1,026	25.46	1.31	45
North Dakota .....	13,665	271	50.42	2.37	31	13,420	267	50.26	2.58	31
Ohio .....	128,340	1,659	77.36	3.64	14	120,695	1,734	69.60	3.58	13
Oklahoma .....	26,851	728	36.88	1.74	41	24,343	771	31.57	1.62	41
Oregon .....	20,448	270	75.73	3.57	16	19,865	347	57.25	2.94	24
Pennsylvania .....	194,434	2,243	86.68	4.08	10	182,502	2,409	75.76	3.90	10
Rhode Island .....	13,462	137	98.26	4.63	6	12,991	147	88.37	4.54	5
South Carolina .....	13,653	481	28.38	1.34	46	12,878	519	24.81	1.28	46
South Dakota .....	16,597	252	65.86	3.10	23	16,121	252	63.97	3.29	17
Tennessee .....	26,305	677	38.86	1.83	38	24,772	712	34.79	1.79	39
Texas .....	67,815	1,797	37.74	1.78	40	64,126	1,787	35.88	1.84	38
Utah .....	8,543	188	45.44	2.14	36	8,231	203	40.55	2.08	36
Vermont .....	5,224	87	60.05	2.83	29	4,942	88	56.16	2.89	26
Virginia .....	29,624	646	45.86	2.16	35	29,142	694	41.99	2.16	35
Washington .....	33,995	448	75.88	3.57	15	32,408	471	68.81	3.54	14
West Virginia .....	29,623	481	61.59	2.90	26	28,960	513	56.45	2.90	25
Wisconsin .....	49,941	711	70.24	3.31	18	47,557	807	58.93	3.03	23
Wyoming .....	4,194	84	49.93	2.35	32	4,023	85	47.33	2.43	32
United States .....	\$2,116,759	31,373	\$67.47			\$1,982,838	33,302			

\* In thousands.

measure of educational need, a variation in relative ability from 1.00 to 9.12 is obtained.

Table 36, based on Table 35, except for the year-by-year range in columns 3 and 4, which was obtained by a procedure similar to that in column 2, shows the range in relative ability each two years during the eleven-year period 1922-1932. This range is approximately the same as that for the entire period considered as a whole. A possible trend, however, is discernible. The range in relative ability, as found by using units of educational need as the measure of the educational load, was greater during the early 1920's and the early 1930's than it was during, say, 1928. That is, the range in relative ability decreased from 1.00 to 7.59 in 1922 to 1.00 to 5.31 in 1928. The range in relative ability increased after 1928 to 1.00 to 6.04 in 1930 and 1.00 to 5.84 in 1932. This may mean that the depression of the early 1920's and of the 1930's affected the ability of the poorest states to support education more than it did the ability of the richest states.

TABLE 36  
RANGE IN RELATIVE ABILITY OF THE STATES TO SUPPORT EDUCATION, 1922-1932

Period	Measures of Need		
	Unit of Need	Average Daily Attendance	Aged 5 to 17
1	2	3	4
1922 .....	1.00 to 7.59	1.00 to 9.32	1.00 to 10.65
1924 .....	1.00 to 6.45	1.00 to 8.32	1.00 to 9.53
1926 .....	1.00 to 6.17	1.00 to 7.57	1.00 to 8.34
1928 .....	1.00 to 5.31	1.00 to 6.65	1.00 to 9.59
1930 .....	1.00 to 6.04	1.00 to 7.52	1.00 to 8.35
1932 .....	1.00 to 5.84	1.00 to 7.28	1.00 to 8.80
1922-1932 .....	1.00 to 6.14	1.00 to 7.66	1.00 to 9.12

The relative ability of the states to support education changes slightly if a retail sales tax at 2 per cent is included in the tax structure (Table 37). The range in relative ability slightly decreases. If the sales tax is included, the range is 1.00 to 5.17; 1.00 to 6.45; and 1.00 to 7.68, according to the measure of educational need used. This means that the poorest states raise proportionately more tax revenue from the sales tax per unit of educational need than the richest states. This is another way of saying that the people in the poorest states find it necessary to spend a larger proportion of their resources for articles taxed under the retail sales tax.

Is it reasonable, under existing economic conditions, to expect each state to support out of its own tax resources a program of

TABLE

RELATIVE ABILITY OF THE STATES TO SUPPORT EDUCATION,

State	Tax Revenue for Education*	Relative Ability to Support Education			
		Units of Edu- cational Need	Revenue per Unit of Need	Relative Ability	Rank
1	2	3	4	5	6
Alabama .....	\$ 118,051	3,762	\$ 31.38	1.26	46
Arizona .....	46,502	659	70.56	2.83	19
Arkansas .....	98,221	2,917	33.67	1.35	45
California .....	670,416	7,587	88.36	3.55	11
Colorado .....	116,704	1,837	61.85	2.48	29
Connecticut .....	220,837	2,155	102.50	4.11	6
Delaware .....	26,928	292	92.22	3.70	8
Florida .....	115,068	1,979	58.14	2.33	32
Georgia .....	153,972	4,521	34.06	1.37	43
Idaho .....	47,784	937	51.00	2.05	33
Illinois .....	918,911	10,001	91.88	3.69	9
Indiana .....	335,859	5,161	65.08	2.61	26
Iowa .....	348,395	4,407	79.05	3.17	15
Kansas .....	223,973	3,785	59.17	2.37	31
Kentucky .....	139,583	3,550	39.32	1.58	42
Louisiana .....	126,276	2,655	47.56	1.91	37
Maine .....	81,219	1,164	69.78	2.80	22
Maryland .....	162,395	1,880	86.38	3.47	12
Massachusetts .....	560,418	5,373	104.30	4.19	4
Michigan .....	491,696	6,276	78.35	3.14	16
Minnesota .....	310,630	4,209	73.80	2.96	17
Mississippi .....	85,538	3,432	24.92	1.00	48
Missouri .....	374,405	5,403	69.30	2.78	23
Montana .....	72,767	1,036	70.24	2.82	20
Nebraska .....	185,300	2,838	65.29	2.62	25
Nevada .....	18,408	143	128.73	5.17	1
New Hampshire .....	52,364	528	99.17	3.98	7
New Jersey .....	496,183	4,781	103.78	4.16	5
New Mexico .....	29,862	694	43.03	1.73	38
New York .....	1,787,007	14,989	119.22	4.78	2
North Carolina .....	173,353	5,146	33.69	1.35	44
North Dakota .....	79,504	1,579	50.35	2.02	34
Ohio .....	767,038	9,290	82.57	3.31	13
Oklahoma .....	167,565	4,193	39.96	1.60	41
Oregon .....	121,663	1,671	72.81	2.92	18
Pennsylvania .....	1,147,978	12,755	90.00	3.61	10
Rhode Island .....	81,934	767	106.82	4.29	3
South Carolina .....	86,565	2,843	30.45	1.22	47
South Dakota .....	96,176	1,453	66.19	2.66	24
Tennessee .....	163,378	3,911	41.77	1.68	40
Texas .....	424,881	10,131	41.94	1.68	39
Utah .....	51,155	1,074	47.63	1.91	36
Vermont .....	32,794	511	64.18	2.58	28
Virginia .....	179,951	3,680	48.90	1.96	35
Washington .....	201,054	2,522	79.72	3.20	14
West Virginia .....	172,782	2,663	64.88	2.60	27
Wisconsin .....	209,348	4,289	69.79	2.80	21
Wyoming .....	26,320	442	59.55	2.39	30
United States .....	\$12,689,161	177,921	\$ 71.32	2.86	

\* In thousands.

37

IF A SALES TAX IS INCLUDED AT 2 PER CENT

1932

According to Various Measures of Need

Average Daily Attendance	Revenue per Average Daily Attendance	Relative Ability	Rank	Population Aged 5 to 17	Tax Revenue per Person Aged 5 to 17	Relative Ability	Rank
7	8	9	10	11	12	13	14
2,717	\$ 43.45	1.26	46	4,922	\$ 23.98	1.04	46
393	118.33	3.44	19	669	69.51	3.02	28
2,099	46.79	1.36	44	3,532	27.81	1.21	44
4,799	139.70	4.06	6	5,541	120.99	5.25	2
1,108	105.33	3.06	25	1,554	75.10	3.26	23
1,559	141.69	4.12	5	2,276	97.05	4.21	5
205	131.36	3.82	10	332	81.11	3.52	16
1,463	78.65	2.29	34	1,983	57.83	2.51	34
3,239	47.54	1.38	43	5,745	26.80	1.16	45
573	83.39	2.42	33	822	53.13	2.52	33
6,863	133.89	3.89	9	10,225	89.87	3.90	10
3,487	96.32	2.80	30	4,514	74.40	3.23	24
2,736	127.34	3.70	11	3,654	95.35	4.14	8
2,167	103.36	3.01	26	2,842	78.81	3.42	18
2,550	54.74	1.59	42	4,388	31.81	1.38	42
1,938	65.16	1.89	39	3,538	35.69	1.55	41
808	100.52	2.92	28	1,139	71.31	3.09	26
1,327	122.38	3.56	14	2,305	70.45	3.06	27
3,873	144.70	4.21	3	5,795	96.71	4.20	6
4,403	111.67	3.25	22	6,326	77.73	3.37	19
2,706	114.79	3.34	21	3,905	79.55	3.45	17
2,487	34.39	1.00	48	3,711	23.05	1.00	48
3,521	106.33	3.09	23	5,156	72.62	3.15	25
608	119.68	3.48	16	959	75.83	3.29	22
1,602	115.67	3.36	20	2,142	86.51	3.75	11
83	221.78	6.45	1	104	177.00	7.68	1
380	137.80	4.01	7	628	83.38	3.62	15
3,653	135.83	3.95	8	5,429	91.39	3.96	9
408	73.19	2.13	36	718	41.59	1.80	37
10,410	171.66	4.99	2	15,741	113.53	4.93	3
3,765	46.04	1.34	45	5,733	30.24	1.31	43
880	90.35	2.63	31	1,287	61.77	2.68	31
6,453	118.87	3.46	17	9,023	85.01	3.69	13
2,738	61.20	1.78	40	4,232	39.59	1.72	39
967	125.81	3.66	13	1,223	99.48	4.32	4
9,491	120.95	3.52	15	14,915	76.97	3.34	20
574	142.74	4.15	4	955	85.79	3.72	12
2,086	41.50	1.21	47	3,612	23.97	1.04	47
810	118.74	3.45	18	1,137	84.59	3.67	14
2,818	57.98	1.69	41	4,459	36.64	1.59	40
6,126	69.36	2.02	37	9,358	45.40	1.97	36
698	73.29	2.13	35	908	56.34	2.44	35
340	96.45	2.80	29	516	63.55	2.76	30
2,616	68.79	2.00	38	4,338	41.48	1.80	38
1,589	126.53	3.68	12	2,092	96.11	4.17	7
1,961	88.11	2.56	32	2,969	58.20	2.52	32
2,822	106.08	3.08	24	4,320	69.29	3.01	29
255	103.22	3.00	27	343	76.73	3.33	21
121,154	\$104.74	3.05		182,020	\$ 69.71	3.02	

public education which would require an expenditure per unit of educational need equal to the average for the country? Table 38 was designed for the purpose of assembling the indices of relative ability in order to facilitate an investigation of the foregoing question. According to the data, it would have been necessary for the poorest state to devote its total state and local tax collections (99.13 to 105.38 per cent, depending on the choice of measures of educational need as shown in Table 38) during the decade 1922-1932 to the support of schools in order to offer its children a program of public elementary and secondary education at a cost per educational unit equal to that offered in the country as a whole. Furthermore, it would have been necessary for at least thirteen states to devote to education a larger proportion of their total state and local tax revenue than was devoted to education by any one of the forty-eight states during the decade 1922-1932 considered as a whole, in order to support a program of public elementary and secondary education at a cost per educational unit equal to the average for the country. (See Tables 38 and 32.)

Does the relative position or rank of the states in their ability to support education change appreciably from year to year or is it rather stable? The data in Table 39 suggest the latter. Both the richest and the poorest states tend to hold their rank with only slight change. The states with average or slightly above average wealth tend to shift their relative positions more than the others. There is some indication that states like Michigan and Nevada, whose economic life depends to a considerable extent upon a single or highly specialized industry, tend to change their rank in ability to support education more than other states. However, conclusions on this point should be extremely tentative, both because of the nature of the data involved and because of the brevity of the period studied.

Something should be said concerning the procedure of changing the property tax rate in 1926 and again in 1927 as well as the change in practically all tax rates in 1930, 1931, and 1932. How does the relative ability of the states to support education according to the procedure used in the present study compare with their relative ability to support education provided (1) all tax rates are held constant from 1922 to 1929 and all taxes increased proportionately during 1930 to 1932, or (2) constant tax rates are used throughout the period from 1922 to 1932 and the problem of decreasing revenue

TABLE 38

PER CENT OF TOTAL STATE AND LOCAL TAX REVENUE REQUIRED TO SUPPORT  
EDUCATION AT A COST PER UNIT OF EDUCATIONAL NEED EQUAL TO  
THAT FOR THE COUNTRY AS A WHOLE, 1922-1932

State	Units of Need		Average Daily Attendance		Population Aged 5 to 17	
	Relative Ability	Per Cent of Tax Collections Required	Relative Ability	Per Cent of Tax Collections Required	Relative Ability	Per Cent of Tax Collections Required
1	2	3	4	5	6	7
Nevada .....	6.14	16.14	7.66	13.76	9.12	11.49
New York .....	5.35	18.53	5.58	18.88	5.51	19.01
Rhode Island .....	4.72	21.00	4.57	23.06	4.10	25.55
New Jersey .....	4.68	21.18	4.44	23.73	4.45	23.54
Massachusetts .....	4.66	21.27	4.69	22.47	4.68	22.38
Connecticut .....	4.65	21.32	4.66	22.61	4.76	22.01
New Hampshire .....	4.45	22.28	4.48	23.52	4.05	25.87
Illinois .....	4.11	24.12	4.34	24.28	4.34	24.14
Delaware .....	4.08	24.30	4.21	25.03	3.88	27.00
Pennsylvania .....	4.06	24.42	3.95	26.68	3.75	27.93
California .....	3.85	25.75	4.41	23.90	5.70	18.38
Maryland .....	3.81	26.02	3.91	26.95	3.36	31.18
Iowa .....	3.74	26.50	4.37	24.12	4.88	21.47
Ohio .....	3.69	26.86	3.85	27.37	4.11	25.49
Washington .....	3.59	27.61	4.13	25.52	4.68	22.38
Michigan .....	3.42	28.98	3.54	29.77	3.67	28.54
Oregon .....	3.29	30.13	4.13	25.52	4.87	21.51
Minnesota .....	3.29	30.13	3.71	28.41	3.84	27.28
Montana .....	3.14	31.57	3.87	27.23	3.67	28.54
Arizona .....	3.11	31.87	3.78	27.88	3.32	31.55
Wisconsin .....	3.09	32.08	3.40	30.99	3.32	31.55
South Dakota .....	3.09	32.08	4.01	26.28	4.27	24.53
Missouri .....	3.08	32.18	3.43	30.72	3.50	29.93
Maine .....	3.08	32.18	3.21	32.83	3.40	30.81
Nebraska .....	3.03	32.71	3.88	27.16	4.34	24.14
West Virginia .....	3.02	32.82	2.97	35.48	2.93	35.75
Indiana .....	2.94	33.72	3.15	33.45	3.63	28.86
Vermont .....	2.73	36.31	2.98	35.36	2.93	35.75
Colorado .....	2.72	36.44	3.36	31.36	3.57	29.34
Kansas .....	2.71	36.58	3.43	30.72	3.90	26.86
Wyoming .....	2.63	37.69	3.30	31.93	3.66	28.62
Florida .....	2.51	39.49	2.46	42.84	2.70	38.80
North Dakota .....	2.31	42.91	3.00	35.13	3.06	34.23
Virginia .....	2.17	45.68	2.21	47.68	1.99	52.64
Idaho .....	2.17	45.68	2.57	41.00	2.67	39.23
Utah .....	2.13	46.54	2.38	44.28	2.73	38.37
Louisiana .....	2.04	48.59	2.03	51.91	1.66	63.11
New Mexico .....	1.87	53.01	2.30	45.82	1.95	53.72
Tennessee .....	1.79	55.38	1.80	58.54	1.70	61.62
Texas .....	1.77	56.00	2.12	49.71	2.07	50.61
Oklahoma .....	1.67	59.36	1.85	56.96	1.80	58.20
Kentucky .....	1.64	60.44	1.65	63.87	1.43	73.26
North Carolina .....	1.44	68.84	1.43	73.69	1.40	74.83
Georgia .....	1.41	70.30	1.43	73.69	1.20	87.30
Arkansas .....	1.41	70.30	1.42	74.21	1.26	83.14
South Carolina .....	1.29	76.84	1.28	82.33	1.10	95.23
Alabama .....	1.27	78.05	1.27	82.97	1.05	99.77
Mississippi .....	1.00	99.13	1.00	105.38	1.00	104.75
United States .....	3.17	31.27	3.37	31.27	3.35	31.27

The indices in columns 2, 4, and 6 are taken from Table 35. The data in columns 3, 5, and 7 are obtained by, first, finding the percentage ratio between the index of each state and that for the country as a whole (3.17; 3.37; and 3.35) and, second, multiplying this percentage ratio by the per cent of total state and local tax collections devoted to education in the country as a whole (31.27).

during the three depression years, 1930 to 1932, is disregarded? Calculations were made for each of the foregoing conditions and the results compared to those secured by the procedure used in the present study. The following observations were made:

1. The range in relative ability of the states to support education is practically unchanged, according to the three foregoing choices as to modification of tax rates. That is, the range is 1.00 to 6.14; 1.00 to 6.17; and 1.00 to 6.08, according to the choice of tax rates.

2. The relative position of only two states changed from that obtained by the procedure used in the present study. Maine and South Dakota exchanged ranks from 22 to 24. However, they are so close in relative ability (3.08 and 3.09, according to column 5 of Table 35) that the change means very little.

Attention has been called to the problem of special taxation for a special privilege in the case of the automobile license fee and the tax on motor fuel (Chapter VIII). The alternatives considered were (1) to omit the amount of tax revenue from these two sources before determining the portion of the total which education could reasonably claim or (2) to include these amounts before making the distribution to education. Certain assumptions were involved in either case. These assumptions were pointed out at that time, and a decision was made, considering the conditions which prevailed from 1922 to 1932, in favor of the latter alternative.

The purpose of the following paragraphs is to explain the result obtained by omitting the motor vehicle license fee and the tax on motor fuel before determining the portion of the total tax collections which could reasonably be expected to be devoted to education. In doing this it was necessary, first, to determine the amount of tax revenue which each state would have raised under the system of taxation based on the Model Tax Plan as used in the present study, provided the motor vehicle license fee and the gasoline tax were omitted. These data were taken from Table 27. Second, it was necessary to determine the portion of the total tax collections which could reasonably be expected to be devoted to education. This was done by the procedure used in Chapter VIII, except the automobile registration fee and the gasoline tax collections were first subtracted from the total tax collections. That is, the per cent of total state and local tax collections which was appropriated for education under existing tax plans during the decade 1922-1932 was found. The result was 34.67 per cent. Third, the amount of



TABLE 39

RANK OF THE STATES IN RELATIVE ABILITY TO SUPPORT EDUCATION, 1922-1932

State	1922	1924	1926	1928	1930	1932	Under Various Conditions, 1922-1932					
							If Sales Tax Is Included at 2 Per Cent			A Tax System Based on the Model Tax Plan		
							Measures of Need			Measures of Need		
							A.D.A.	Population Aged 5 to 17	Units of Need	A.D.A.	Population Aged 5 to 17	Units of Need
1	2	3	4	5	6	7	8	9	10	11	12	13
Nevada .....	1	1	1	2	1	1	1	1	1	1	1	1
New York .....	2	2	2	1	2	2	2	3	2	2	3	2
Rhode Island ....	3	3	3	4	6	5	4	12	3	5	14	3
New Jersey .....	4	5	4	6	3	7	8	9	5	7	9	4
Massachusetts ....	5	6	5	5	4	3	3	6	4	3	8	5
Connecticut .....	6	4	6	3	5	4	5	5	6	4	6	6
New Hampshire ..	7	7	7	7	7	6	7	15	7	6	15	7
Illinois .....	9	9	8	10	9	8	9	10	9	10	10	8
Delaware .....	12	11	9	8	8	11	10	16	8	11	17	9
Pennsylvania .....	10	8	10	9	10	10	15	20	10	15	19	10
California .....	8	12	12	11	13	15	6	2	11	8	2	11
Maryland .....	11	10	11	13	12	12	14	27	12	16	27	12
Iowa .....	16	15	14	14	11	9	11	8	15	9	4	13
Ohio .....	14	14	13	12	14	13	17	13	13	19	13	14
Washington .....	15	13	16	15	15	14	12	7	14	12	7	15
Michigan .....	13	16	15	16	22	22	22	19	16	22	20	16
Oregon .....	18	18	18	18	16	24	13	4	18	13	5	17
Minnesota .....	22	19	20	17	17	16	21	17	17	21	18	18
Montana .....	24	20	17	19	24	20	16	22	20	18	21	19
Arizona .....	17	17	19	22	27	30	19	28	19	20	28	20
Wisconsin .....	19	26	24	23	18	23	24	29	21	25	29	21
South Dakota ....	23	22	25	21	23	17	18	14	24	14	12	22
Missouri .....	27	24	23	20	21	18	23	25	23	24	25	23
Maine .....	26	23	22	24	19	21	28	26	22	28	26	24
Nebraska .....	25	27	26	25	20	19	20	11	25	17	11	25
West Virginia ....	21	21	21	26	26	25	32	32	27	32	32	26
Indiana .....	20	25	28	28	25	27	30	24	26	29	23	27
Vermont .....	32	31	29	29	29	26	29	30	28	31	31	28
Colorado .....	30	30	30	31	30	29	25	23	29	26	24	29
Kansas .....	31	32	31	30	28	28	26	18	31	23	16	30
Wyoming .....	28	29	32	27	32	32	27	21	30	27	22	31
Florida .....	29	28	27	33	33	34	34	34	32	34	35	32
North Dakota ....	37	34	34	32	31	31	31	31	34	30	30	33
Idaho .....	35	33	33	34	34	33	33	33	33	33	33	34
Virginia .....	33	36	36	35	35	35	38	38	35	37	37	35
Utah .....	34	35	37	37	36	36	35	35	36	35	34	36
Louisiana .....	36	37	35	38	37	37	39	41	37	39	41	37
New Mexico .....	38	38	39	36	39	40	36	37	38	36	38	38
Tennessee .....	40	39	38	39	38	39	41	40	40	41	40	39
Texas .....	39	40	41	40	40	38	37	36	39	38	36	40
Oklahoma .....	41	42	42	41	41	41	40	39	41	40	39	41
Kentucky .....	42	41	40	42	42	42	42	42	42	42	42	42
North Carolina ...	43	43	43	43	45	45	45	43	44	43	43	43
Georgia .....	44	46	44	44	44	44	43	45	43	44	45	44
Arkansas .....	45	45	45	45	43	43	44	44	45	45	44	45
South Carolina ...	46	44	47	46	46	46	47	47	47	46	46	46
Alabama .....	47	47	46	47	47	47	46	46	46	47	47	47
Mississippi .....	48	48	48	48	48	48	48	48	48	48	48	48

the revenue obtained in the first step was multiplied by 34.67 per cent. This showed the amount of revenue available for education. This latter amount was divided by the units of educational need, as shown in column 4 of Table 35, in order to obtain the tax revenue available per unit of need in each state. Fourth, the tax revenue per unit of need in the poorest state was used as a base of 1.00 in order to determine the relative ability of the states.

A comparison was made between the results secured by including the automobile license fee and the tax on motor fuel with the results secured by omitting these taxes before distributing to education its share of the total taxes. The following points were observed. First, the range among the states in relative ability to support education was 1.00 to 6.14 if the special taxes were included and 1.00 to 6.59 if these taxes were omitted. Second, the ten states most able to support education when the tax revenue from the automobile license fee and the tax on motor fuel were included, as well as the fifteen states most able to support education, when the foregoing taxes were included, were also the same ten and the same fifteen states most able to support education when these two special taxes were omitted. With only one exception the same condition held true for the twenty as well as for the twenty-five richest states.

The eight states least able to support education according to one measure were the eight poorest states on the other measure. The same was true of the thirteen poorest states and the eighteen poorest states, and only one exception occurred in the case of the twenty-three poorest states.

Perhaps it is well to mention the case of New York because it demonstrates an important assumption underlying the procedure when the motor vehicle taxes are included in the total as well as the assumption when these taxes are omitted. New York had no tax on the sale of motor fuel until 1929. In 1930, the first full year in which the gasoline tax was operative in New York, the state collected three-fourths as much revenue from the gasoline tax as it did from the automobile license fee. Thus, during three-fourths of the time included in the present study, New York taxed motor vehicle owners and operators only 50 to 60 per cent (approximately) as heavily for the benefit of the highways as in later years. By omitting the two special taxes, New York's relative ability increased from 5.35 to 5.80.

The foregoing example illustrates the point that if the two special

taxes are omitted from the total before studying the relative ability of the states to support education, the result obtained shows that any state which put forth little or no effort to tax automobile owners and operators for the special highway privilege but paid all or most of the highway expenditures out of the general tax revenue would rank higher in relative ability to support education than it would if such special taxes were levied.

In addition to the foregoing comparison, the correlation was computed between the ability of the states to support education when the motor license fee and the gasoline tax were included and when these taxes were excluded as a means of further analyzing the practical significance of the two alternatives. The correlation was .99. Such a correlation would be expected, however, when it is observed that the only difference in ability to support education under the two alternatives is due to (1) the fact that a few states had no gasoline tax during some of the years included in the present study and (2) the fact that some states levied a gasoline tax and/or an automobile registration fee above or below the average tax rate for the country. The influence of either or both of these factors on the total tax collections, as has been shown, is small. If all states had levied a gasoline tax and charged a motor vehicle registration fee during the entire period, the amount of such taxes collected in the country as a whole would have been equal to the amount of these taxes computed in the present study for the country as a whole. In a given state any difference between the amount of such taxes collected under this condition and the estimates in the present study would have been due to the state's use of tax rates other than the average rates for the country.

## CHAPTER X

### SUMMARY AND CONCLUSIONS

DEPRESSION conditions have increased the difficulties of adequately financing public education. Points of view differ sharply as to the rôle which the Federal Government should play in the financial support of public schools. A major point of disagreement bearing on this issue has concerned the ability of the various states to support education. Data pertinent to the scientific study of the issue are presented in this investigation, which is concerned with the economic ability of the states to raise tax revenue and their relative ability to support a given program of public elementary and secondary education. The study covers the years 1922-1932, inclusive.

This investigation employs a different method of measuring economic ability from that used by previous investigations in this field. The latter have used total wealth and income as indications of economic power, thereby assuming that each dollar of wealth and of income of a state is equally available for the support of education. The present investigation does not make this assumption. It assumes that the wealth and the income of a state are available for the support of education only in so far as they yield revenue under a practical system of taxation. The study, therefore, estimates the tax revenue which could have been raised by the several states during each year from 1922 to 1932 and throughout this entire period, provided they had employed a uniform tax system, proper in structure and efficiently administered. These estimates are proposed as a new and valuable measure of the economic ability of the various states to support public enterprises, including public education.

The uniform tax system, devised as a means of measuring the economic ability of the several states to support public services, and public education in particular, is based on the *Second Report on a Plan of a Model System of State and Local Taxation*, prepared by a group of tax experts acting as a committee of the National Tax Association. The system of taxation used in this study follows the

recommendation of this Committee as closely as the definiteness of their recommendations and the availability of essential economic data permit. In other instances, the structure of the tax system devised by this investigation is based upon the advice of taxation authorities. The components of the resulting tax system consist of a personal income tax, a tax on tangible property, a tax on net income derived from both incorporated and unincorporated business enterprises, and certain supplementary taxes, namely, a tax on motor fuel, a motor vehicle license tax, and an inheritance tax. The tax rates follow the recommendations of the Committee of the National Tax Association as closely as conditions permit. Tax practice and theory are the bases of rate determination in some instances.

The total annual revenue which could have been raised by the forty-eight states, taken as a whole, employing the tax system devised in this investigation, is approximately equal to the actual annual state and local tax collections of the forty-eight states, taken as a whole, during the period 1922-1932. This was accomplished by varying the rate of the tax on tangible property. The latter rates, however, are such that the amount and percentage of total tax revenue which would have been realized through this tax as a part of the tax system devised by this study are substantially less than were actually raised through the general property tax during the period 1922-1932. The percentages of total tax revenue which would have been raised during the eleven-year period by the forty-eight states through the various components of the tax system are as follows: personal income 8.52, tangible property 68.66, business income 11.62, motor fuel 5.47, automobile license 4.53, and inheritance 1.20 (Table 29). The foregoing percentages apply to the forty-eight states taken as a whole. The percentage of revenue realized in individual states from the different taxes varied considerably in accordance with their economic structure. For example, the percentage of total revenue realized from the tangible property tax varied from 83.33 in South Dakota to 58.55 in New York. The percentage of revenue derived from the personal income tax varied from 18.95 in Nevada to 1.63 in South Dakota. Similar extremes for the other taxes follow: net business incomes, from 14.30 in Wyoming to 6.56 in South Dakota; motor fuel, from 11.24 in Florida to 3.36 in New York; and inheritance, from 5.67 in Delaware to 0.02 in North Dakota (Table 29).

Calculations were also made of the amount of revenue which the

forty-eight states could have raised during the period 1922-1932 through the imposition of a sales tax made up of a retail sales tax on certain articles at 1 per cent and at 2 per cent, and a "luxury tax" (special tax) on tobacco products, soft drinks, patent and proprietary medicines, admissions, and chewing gum. In the tax system devised in this study the sales tax is not included as a means of measuring the relative ability of the states to raise tax revenue, since it is not looked upon with favor by the majority of tax experts. The sales tax, however, has been increasingly used in practice in recent years. The inclusion of estimates of the revenue which the sales tax would have raised in the various states makes it possible to study the yield of this tax as compared with the tax system used in this investigation, and particularly to estimate the effect which the inclusion of the sales tax would have had on the relative ability of the states to raise tax revenue. For the country as a whole, the revenue from a sales tax made up of a 2 per cent tax on certain articles and a "luxury tax" on certain other articles would have raised 22 per cent as much revenue as the tax system used in this study. This percentage, however, would have varied in different states, generally being larger in the poorer states and smaller in the wealthier states (Table 30).

The percentages of total tax revenue which would have been raised by the various states through the tax system used in this study were relatively stable in practically all the states during each year throughout the period 1922-1932, and varied from 14.27 in New York to 0.16 in Nevada for the period as a whole. The widest fluctuation in the percentage of total revenue which would have been raised by an individual state occurred in Delaware where the extremes were 0.20 per cent to 0.30 in different years, due mainly to fluctuations in revenue from the inheritance tax (Table 28).

In order to estimate the relative ability of the states to support public education, it was necessary to determine what portion of the total tax-raising ability of each state should be allocated to the support of public education. It was hoped that a defensible basis might be discovered whereby varying portions of the total tax-raising power of the several states might be properly allotted to education. A preliminary study of this question revealed that it would require extensive additional research in order to solve this problem satisfactorily. It was discovered that various groups of states, such as highly industrialized, densely populated, and agricultural states

scatter on both sides of the central tendency of the forty-eight states with reference to the percentage of total tax revenue allotted to school support. It was discovered that the only group of states which tended to allocate a more than average percentage of revenue to the support of schools was the sparsely settled western states. This factor is taken into account in one of the measures of educational need used in this investigation. Because of these considerations, this investigation accepted average practice for the period 1922-1932 in the country as a whole as a practical, although not wholly satisfactory, method of determining the proportion of total tax revenue to be devoted to the support of public education. Accordingly, 31.27 per cent of the revenue which would have been raised annually in each state by the tax system devised by this study was considered available for school support. The effect of this decision makes it possible to use either the total revenue which would have been raised or the foregoing constant percentage allocated to education, in measuring the ability of the states to support education.

The measurement of the relative ability of the states to support education involves not only data concerning their ability to raise tax revenue for the support of education, but also estimates of their educational needs; that is, comparable measures of the size of their educational obligations or responsibilities. Three measures of the educational needs of the various states were used: Mort's recently developed and scientific measure and two frequently used but less satisfactory measures—average daily attendance of public school children, and census population aged 5 to 17 years.

The application of the measures of the ability of the states to raise tax revenue for the support of education and of the measures of educational need to each of the states reveals important data concerning the relative ability of the states to support education.

The twelve states most able to support education, considered as a group, have approximately three times (2.88, 2.82, or 3.11, according to the measure of educational need used) as much ability to support a given program of education as the group of twelve states least able to support education.

The group of six states most able to support education have approximately four times the ability of the group of six least able states (3.82, 3.88, or 4.29, according to the measure of educational need used).

The ability of the states to support education varies in the extreme cases in the proportion of 1.00 to 6.14, 7.68, and 9.14, according to the measure of educational need used. For each \$1.00 which Mississippi could have raised for the support of a given program of education, Nevada could have raised at least \$6.14 and New York could have raised at least \$5.35 for the same purpose (Table 35).

The foregoing measures of the differences in the relative ability of the states to support education generally agree with the findings of previous investigators. Norton's research concerned with years near the beginning of the 1920-1930 decade revealed a difference in ability to support education between the twelve most able and the twelve least able states of slightly more than 3 to 1. His measurements of differences in ability between the extreme states were slightly more than 6 to 1. Norton, however, used the number of census children aged 6 to 13 years as the measure of educational need. The use of census children in the present investigation resulted in differences in ability of 3.11 to 1 in the twelve most able as compared with the twelve least able states, and of 9.14 to 1 in the two extreme cases, Nevada and Mississippi. When similar measures of educational need are used, the present investigation and that by Norton agree as to the three states that are most able to support education (Nevada, California, and New York) and as to the three that are least able (Mississippi, Alabama, and South Carolina).

The relative positions of the states in ability to support education appeared to be rather permanent during the period 1922-1932. The twelve most able and the twelve least able states are identical, with a few exceptions, throughout the period 1922-1932. Such changes in rank as occurred among the states concern those of approximately average ability, where the differences in ability are comparatively small.

The addition of a retail sales tax to the tax system used in this investigation does not greatly affect the relative ability of the states to support a given program of education. They rank in approximately the same order whether the sales tax is included or omitted. Using Mort's index of educational need, the range in ability decreased slightly, that is, the range was 1.00 to 6.14 if the sales tax was omitted, and 1.00 to 5.16 if it was included.

This study also reveals certain data bearing on the question of



the absolute ability, as contrasted with the relative ability of the states to support education. The revenue which would have been raised by a tax system composed of the elements previously described was compared with the amount required to finance education in the various states at the level of the average cost per pupil for the country as a whole. There is one state, Mississippi, which would have had to allocate all the revenue raised by the tax system devised by this investigation (99.13, 105.38, or 104.75 per cent of the total revenue raised according to the measure of educational need used) in order to finance a program of public elementary and secondary education at an average level of expenditure. In five other states, between 70 and 90 per cent of all tax revenue would have been required to finance an average public school program. At least thirteen states would have found it necessary to allocate to education a larger portion of their total tax revenue, under the system of taxation based on the Model Tax Plan as developed by this study, than was appropriated for education by any of the forty-eight states during the period 1922-1932 to finance public schools at an average level of cost. At the other end of the scale there are two states, Nevada and New York, which could have financed such an educational program by allocating less than 20 per cent of their total tax revenue to education. At least six additional states could have accomplished the same result by allotting less than 25 per cent of their revenue to public school support (Table 38).

The findings of this investigation confirm those of previous studies, that the states differ substantially in their ability to support public schools. Some states must levy taxes for the support of education at several times the rate of other states in order to finance a given program of education. The differences in ability to support schools would not be removed if all states adopted and efficiently administered a modern system of taxation. Rather, these differences go back to basic differences in economic ability.

The data of this study support the conclusion of previous investigations that the ranks of the states with reference to ability to support education appear to be relatively permanent. The states which were most able to support public education a decade ago and those which were least able to do so still retain their respective positions. States with average ability to support education a decade ago still have average ability.

It appears that a considerable number of states cannot finance

their schools at a level of expenditure equivalent to the average for the country as a whole, even though they adopt modern systems of taxes, levy these taxes at substantial rates, and allocate a proper portion of tax revenue to the support of schools.

There is need for extensive study to discover what relationships exist between the differences in abilities of the states to support education and the differences in the adequacy of the financial support which has been, and which probably will be, provided for public education by the several states. The social implications resulting from further investigation of this question will probably be of great importance.

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## APPENDIX

THE purpose of this study was to measure the economic ability of the several states to raise tax revenue under a system of state and local taxation based on the Model Tax Plan prepared by the Committee of the National Tax Association and to determine their relative ability to support education. Some may say that the relative ability of the states to support education depends, on the finance side, upon two factors: ability to raise tax revenue, and income from permanent funds and the lease of school land. As was pointed out in Chapter VIII, the former source accounted for approximately 95 per cent of the total during the decade 1922-1932 for the country as a whole. The latter item, however, is of more importance in certain states.

Another problem arises at this point. The status of permanent funds is not definitely known. Available information shows that such funds have been entirely or partly dissipated in certain states and that in return for the funds the state has guaranteed to distribute to education annually an amount equivalent to the income from such funds. Under this condition, income from permanent funds in reality means appropriation from taxation. It is conceivable that in certain instances such an arrangement could entirely destroy income from permanent funds. For example, suppose that a given state has confiscated the permanent funds and guaranteed the income therefrom. If and when the state begins to appropriate state funds for education, there is a probability that the state might say that somewhere in the \$20,000,000 appropriated for education is the \$4,000,000 guarantee for confiscated permanent funds.

The purpose of this part of the study is to show the relative ability of the states to support education provided "income from permanent funds and the lease of school land" is included. It is understood that certain reservations have been made and that the data are presented for whatever value they may possess.

Table 40 shows the foregoing information. Columns 2, 4, and 6 were obtained by (1) adding to column 2 of Table 35 income from permanent funds and lease of school land, as shown in the various

TABLE 40

RELATIVE ABILITY OF THE STATES TO SUPPORT EDUCATION IF PERMANENT FUNDS ARE INCLUDED, 1922-1932

State	Relative Ability to Support Education According to Various Measures					
	Revenue per Unit of Educational Need	Rank	Revenue per Average Daily Attendance	Rank	Tax Revenue per Person Aged 5 to 17	Rank
1	2	3	4	5	6	7
Alabama .....	\$ 23.66	47	\$ 32.76	46	\$ 18.09	47
Arizona .....	60.24	22	101.01	19	59.34	26
Arkansas .....	26.29	44	36.54	45	21.72	44
California .....	71.78	11	113.49	9	98.29	2
Colorado .....	52.97	29	90.22	24	64.33	23
Connecticut .....	86.93	5	120.16	4	82.31	7
Delaware .....	76.86	9	109.47	13	67.60	20
Florida .....	47.12	33	63.75	35	46.91	35
Georgia .....	26.19	45	36.55	44	20.61	45
Idaho .....	46.91	34	76.71	32	53.47	31
Illinois .....	77.02	8	112.24	11	75.33	13
Indiana .....	56.39	27	83.46	29	64.47	21
Iowa .....	69.76	13	112.36	10	84.13	5
Kansas .....	51.13	31	89.31	25	68.10	19
Kentucky .....	30.55	42	42.53	42	24.72	42
Louisiana .....	38.39	38	52.59	39	28.81	41
Maine .....	57.51	26	82.85	20	58.78	28
Maryland .....	70.84	12	100.36	30	57.78	29
Massachusetts .....	86.88	6	120.53	3	80.55	9
Michigan .....	63.87	19	91.04	23	63.37	24
Minnesota .....	64.12	17	99.74	21	69.11	18
Mississippi .....	28.97	48	26.18	48	17.54	48
Missouri .....	58.18	24	89.27	26	60.96	25
Montana .....	64.20	16	109.39	14	69.35	17
Nebraska .....	58.21	23	103.12	17	77.12	11
Nevada .....	120.39	1	207.42	1	165.54	1
New Hampshire .....	83.07	7	115.42	6	69.84	16
New Jersey .....	87.52	4	114.54	8	77.07	12
New Mexico .....	42.33	36	72.00	34	40.92	36
New York .....	99.23	2	142.87	2	94.49	3
North Carolina .....	26.97	43	36.86	43	24.21	43
North Dakota .....	48.05	32	86.22	28	58.95	27
Ohio .....	69.09	15	99.46	22	71.13	14
Oklahoma .....	33.19	41	50.82	40	32.88	39
Oregon .....	62.62	20	108.21	16	85.56	4
Pennsylvania .....	75.30	10	101.20	18	64.40	22
Rhode Island .....	87.72	3	117.21	5	70.45	15
South Carolina .....	23.99	46	32.69	47	18.88	46
South Dakota .....	63.98	18	114.76	7	81.76	8
Tennessee .....	33.45	40	46.43	41	29.34	40
Texas .....	34.28	39	56.68	38	37.11	37
Utah .....	41.99	35	63.39	36	48.73	34
Vermont .....	51.63	30	77.60	31	51.13	32
Virginia .....	40.51	37	56.99	37	34.37	38
Washington .....	69.77	14	109.79	12	83.39	6
West Virginia .....	56.12	28	76.21	33	50.33	33
Wisconsin .....	57.69	25	87.68	27	57.28	30
Wyoming .....	62.46	21	108.26	15	80.49	10
United States .....	59.68		87.65		58.34	

issues of the *Biennial Survey of Education*, United States Office of Education, and (2) dividing the result in turn by columns 3, 7, and 11 of Table 35. Columns 3, 5, and 7 of Table 40 are rankings based on columns 2, 4, and 6.

A comparison of these ranks to those in Table 39 indicates that income from permanent funds and lease of school land has very little, if any, influence on the relative ability of most states to support education. The effect was as follows: 20 states, no change in rank; 8 states (Massachusetts, Ohio, Missouri, Kansas, Florida, Louisiana, Tennessee, and Georgia) dropped to the next lowest position, that is, lost one place in rank; 7 states (Connecticut, Washington, Minnesota, North Dakota, Utah, Texas, and Arkansas) gained one place; 5 states (Arizona, Maine, West Virginia, Vermont, and Virginia) lost two places; 2 states (Nebraska and New Mexico) gained two places; 2 states (Michigan and Oregon) lost three places; 1 state (Montana) gained three places; 1 state (Wisconsin) lost four places; 1 state (South Dakota) gained four places; and 1 state (Wyoming) gained ten places.

It should be pointed out that, although in a relative sense the position of twenty-eight states was affected more or less by income from permanent funds and lease of school land, the actual ability of only twelve states was affected. That is, twelve states had more money per pupil. Of those twelve states, seven were affected only slightly, that is, they gained one place in rank. Only three states gained more than two places in rank.











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